

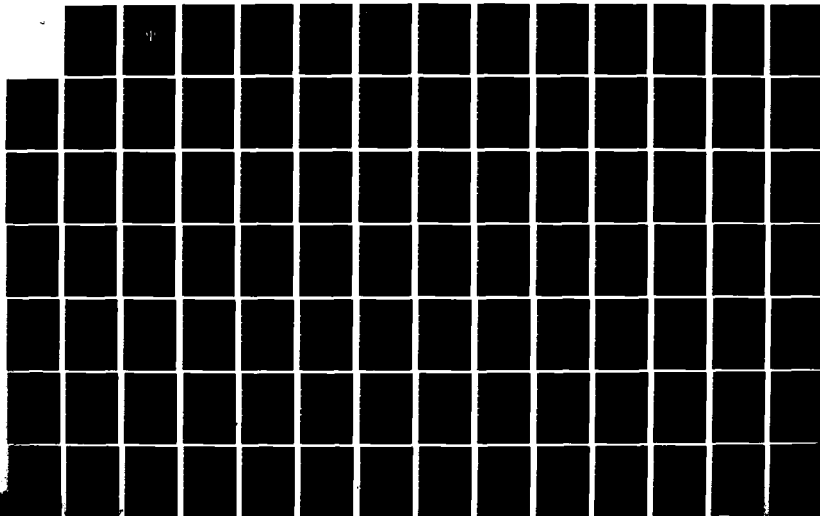
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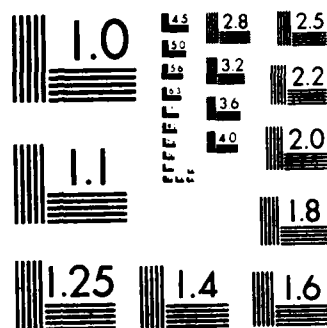
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DEPARTMENT PSYCHOLOGY H. (U) OFFICE OF THE SURGEON
GENERAL (ARMY) WASHINGTON D C A D MANGELSDORFF ET AL.
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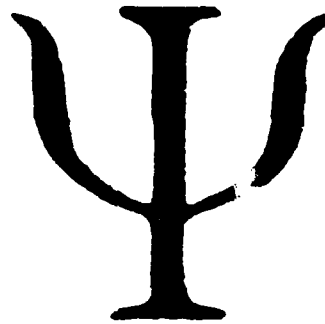


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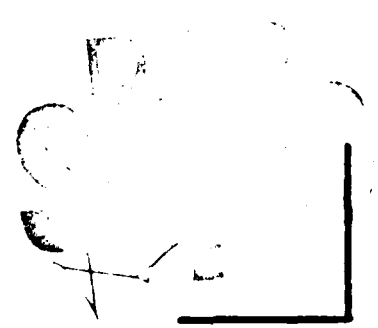
Current Trends in Army Medical Department Psychology



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8 - 12 November 1976

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(TITLE): Proceedings of the Current Trends in Army Medical Department Psychology
Held at San Antonio, Texas on 8-12 November 1976.

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P003 733	School Consultation and the Training of Public School Teachers in the Use of a Positive, Success-Oriented Behavioral Approach
P003 734	Clinical Biofeedback: An Introduction
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AD#:	P003 742	TITLE:	Short-Term Socially-Approved Father Absence: A Review of the Literature with Implications for Further Research
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CURRENT TRENDS
IN
ARMY MEDICAL DEPARTMENT PSYCHOLOGY

8 - 12 November 1976

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CPT Lloyd Cripe	Ft Rucker	"
CPT George Muse	Ft Riley	"

INVITED GUESTS

(In Order of Presentation)

MG SPURGEON H. NEEL, JR.: MG Neel was born and educated in Memphis, Tennessee. He entered the military service following internship at the Methodist Hospital in Memphis, and was commanding a Medical Company in Europe when World War II ended. In succeeding years, General Neel became involved in all phases of field medicine and aviation medicine. He is a graduate of the US Army Command and Staff College and the Industrial College of the Armed Forces. In addition to his MD from the University of Tennessee, he has earned an MPH from Howard School of Public Health and an MSBA from George Washington University.

MS. PENELOPE MONTGOMERY: Ms. Montgomery has a BA and an MS degree. She is on the faculty of the Psychology Division in the Department of Psychiatry at the University of Texas Health Science Center at San Antonio. She specializes in biofeedback research and teaching clinical applications of biofeedback. She has several publications in the area of biofeedback to include co-authoring a book.

DR. RALPH REITAN: Dr. Reitan is Professor of Neurological Surgery and Psychology at the University of Washington in Seattle. He is also Director of his own clinical neuropsychology laboratory which conducts research and provides consultation in neuropsychology. Dr. Reitan, noted internationally as a pioneer in neuropsychology, has published over 130 research articles and books in his field. He is a Fellow in the American Psychological Association and a Diplomate in Clinical Psychology.

DR. THEODORE BLAU: Dr. Blau is a psychologist in independent practice in Tampa, Florida, who will assume the Presidency of the American Psychological Association in January 1977. He earned his BS, MS, and Ph.D. degrees from the University of Pennsylvania. He completed post-doctoral clinical training at the VA Hospital at Perry Point, Maryland. Dr. Blau has an extensive list of professional publications. He serves as a consultant to many organizations and government agencies, and is a Professor of Psychology at the University of South Florida Medical School. He is also visiting Professor at the Graduate School of Human Behavior at the US International University in San Diego, California. He is a member of several professional organizations to include being a Fellow in the American Psychological Association and a Diplomate in Clinical Psychology.

DR. HAROLD CRASILNECK: Dr. Crasilneck is in private practice in Dallas, Texas. He received all of his University degrees in Texas schools, with his Ph.D. being from the University of Houston. His publications are extensive to include journal articles and books. He has served on the faculty of several medical schools and universities. He is a

noted authority, lecturer, and author in the field of clinical hypnosis and has received many honors and awards for his clinical contributions in this endeavor. He is a member of several professional organizations to include being a Fellow in the American Psychological Association and a Diplomate in Psychological Hypnosis.

1976 Current Trends in AMEDD Psychology Conference

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US Army Reserve, Ohio

LTC Cecil B. Harris
MEDDAC, Ft Ord, CA

LTC Richard E. Hartzell
OTSG, Wash D.C.

MAJ Clifford R. Dempster
MEDDAC, Ft Carson, CO

MAJ David H. Gillooly
MEDDAC, Ft McClellan, AL

MAJ Ernest J. Lenz, Jr.
AHS, Ft Sam Houston, TX

MAJ Howard T. Prince II
USMA, West Point, NY

MAJ E. R. Worthington
BAMC, Ft Sam Houston, TX

CPT David Adamson
US Army Reserve, Utah

CPT Jack E. Bentham
US Army Europe

CPT David L. Bevett
WBAMC, El Paso, TX

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MEDDAC, Ft Hood, TX

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4164 USAR School
Ft Sam Houston, TX

PROGRAM

CURRENT TRENDS IN AMEDD PSYCHOLOGY

Tuesday, 9 November 1976

Morning

- 0800 - 0815: Introduction - Continental Room
MG Spurgeon Neel, Commanding General, US Army Health Services
Command, Fort Sam Houston, Texas.
- 0815 - 0830: Introductory Comments - Continental Room
LTC Richard Hartzell, Psychology Consultant, Office of The
Surgeon General, US Army.
- 0830 - 0950: Introduction to Biofeedback - Continental Room
Ms. Penelope Montgomery, M.S., Psychology Division, University
of Texas Health Science Center at San Antonio, Texas.
- 0950 - 1010: Break.
- 1010 - 1200: Introduction to Neuropsychology - Continental Room
Dr. Ralph Reitan, PH.D., University of Washington, Seattle,
Washington; and CPT Raymond Parker, Madigan Army Medical
Center, Tacoma, Washington.
- 1200 - 1300: Lunch.

Afternoon

- 1300 - 1600: Neuropsychology Workshop - Continental Room
Dr. Ralph Reitan and CPT Raymond Parker. Introduction Work-
shop: Interpretation of the Halstead-Reitan Neuropsychologi-
cal Battery for Adults.
- 1600 - 1700: Research Psychology - Fiesta Room
Personality Correlates of the Successful Interviewee at The
United States Uniform Health Science School of Medicine:
CPT Robert Gifford and Col Donald Ebner (1/2 hour).
- Tracking Down the Ideal Military Physician; Preliminary
Proposals for a Longitudinal Study at the USUHS School of
Medicine: COL Donald Ebner and CPT Robert Gifford (1/2 hour).
- 1300 - 1700: Biofeedback Equipment Display - Hidalgo Room
Various biofeedback instrument manufacturers and representa-
tives will display and demonstrate the biofeedback equip-
ment.

Consultation in School-Teacher: CPT David Bevett (2 hours).

Tests as a Vehicle for Amelioration of Learning Problems:
CPT David Adamson (1 hour).

1300 - 1700: Community Psychology Workshops - Juarez Room
Psychological Consultation in Preventative Dentistry:
CPT Robert Smith (2 hours).

The Participants Problem-Oriented Case Conference; A
Non-traditional Model of the Case Conference and a
Model of Group Supervision: CPT Lloyd Cripe (2 hours).

Evening

1800 - 2000: Cocktail Party - Fontana Room
A cocktail party for AMEDD Psychologists.

Wednesday, 10 November 1976

Morning

0800 - 0900: Psychology Today and the Military - Continental Room
Dr. Theodore Blau, Ph.D., President-elect, American
Psychological Association, Tampa, Florida.

0900 - 1100: Biofeedback Applications - Continental Room
Ms. Penelope Montgomery, M.S., and CPT Robert Schneider.

1100 - 1200: Introduction to Hypnotherapy - Continental Room
Dr. Harold Crasilneck, Ph.D., Dallas, Texas.

1200 - 1300: Lunch.

Afternoon

1300 - 1530: Advanced Hypnotherapy Workshop - Fiesta Room
Dr. Harold Crasilneck and MAJ Clifford Dempster.
Advanced Techniques in the Application of Hypnotherapy.
This workshop is for the therapist who has had prior
training and clinical experience in hypnotherapy.

1530 - 1600: Community Psychology - Fiesta Room
The Psychologist's Role in a Combat Division: CPT George Muse
(1/2 hour).

1600 - 1700: Research Psychology - Fiesta Room
The Use of Human Subjects in Army Research: CPT Stanley Holgate
(1/3 hour).

Voluntary Slowing of Heart Rate; A comparison of Various Techniques: CPT Bruce Cuthbert (1/3 hour).

Behavioral Toxicological Studies of Pesticides in Lab Rats: CPT Perry J. Kurtz (1/3 hour).

1300 - 1700: Biofeedback Workshop - Hidalgo Room
Ms. Penelope Montgomery and CPT Robert Schneider.
Introduction, Applications, Modalities, Program Planning and Experimentation.

1300 - 1500: Introductory Hypnotherapy - Cortez Room
Organizational Development/Organizational Effectiveness at Fort Hood; A Special Look at Chaplains in OD/OE: CPT Robert Smith (2 hours).

1300 - 1700: Child and Family Therapy - Juarez Room,
Short-term Socially Approved Father Absence; A Review of the Literature: CPT Frank Edwards (1/2 hour).

A Volunteer Training Program in a Child and Family Clinic: CPT Thomas Stephenson (1 hour).

Behavior Management and Parent-Child Relationship Training of Parents in Groups: CPT David Bevet (1 hour).

Negotiation of Family Contracts: CPT Terry Orme (1/2 hour).

Teaching Problem Solving Skills to Couples: CPT James Turner (1 hour).

1400 - 1700: Conversation hour with Dr. Theodore Blau and LTC Richard Hartzell, North American Room (lobby level).

Thursday, 11 November 1976

Morning

0800 - 0900: Open address by Dr. Theodore Blau - Continental Room

0900 - 1200: Clinical Applications of Hypnotherapy - Continental Room
Dr. Harold Crasilneck, Ph.D., and MAJ Clifford Dempster.

Afternoon No formal workshops are scheduled. This time is open for informal meetings, or visits or tours as planned by the Tours Committees.

Friday, 12 November 1976

Morning

- 0800 - 0900: The Consultation System Throughout Army Psychology - Continental Room
LTC Richard Hartzell, OTSG Psychology Consultant
MAJ E. R. Worthington, HSC Psychology Consultant
MAJ David Gillooly, Regional Psychology Consultant
CPT Jack Schoberg, Past USAREUR Psychology Consultant
CPT Jack Bentham, Current USAREUR Regional Consultant
- 0900 - 1000: Personal Administration and Management - Continental Room
Procedures for AMEDD Psychologists: MAJ David Gillooly,
Community Mental Health Activity, Fort McClellan, Alabama.
- 1000 - 1020: Break.
- 1020 - 1130: Organizational Development/Organizational Effectiveness in the Army - Continental Room
COL Harold Allen, Chief, Human Resources Division, US Army Health Services Command.

CONFERENCE INTRODUCTION

SPURGEON NEEL
Commanding General, US Army Health Service Command
Ft Sam Houston, Texas

1. Point: Professional growth and development of AMEDD Psychology, especially in areas of clinical and applied psychology.

Discussion: Psychology is very much alive and growing. HSC Reg 10-1 has been recently instituted which allows clinical psychologists to become chiefs of community mental health activities. This is being done at three MEDDACs, Forts Dix, McClellan and Ord. In addition to their normal activities, several psychology services are providing specialty clinics in areas of neuropsychology, hypnotherapy, biofeedback, community consultation, behavior therapy, pain therapy, smoking and weight reduction programs, etc. Two HSC medical centers have prepared proposals for post-doctoral fellowships. If accepted, they will provide specialty training in community psychology and neuropsychology to train AMEDD psychologists for positions of greater responsibility in these areas. There is one clinical AMEDD psychologist currently in the Walter Reed Child Psychiatry Post-Doctoral program. She will complete her training in August 1977. Another aspect of growth and development within psychology has been the increase in field grade officers. When HSC began in 1973, we had 66 psychologists assigned but only one was field grade. Right now, 10 of our 66 psychologists are of field grade rank. Three years ago there were 2 field grade research psychologists; today, 5 of the 40 research psychologists are field grade. The contribution of research psychologists is growing and developing. We have research psychologists in HSC currently working in the Health Care Studies Division of the AHS and in the US Army Environmental Hygiene Activity at Aberdeen Proving Ground.

2. Point: Providing direct patient care, especially in view of a decrease in the number of available psychiatrists.

Discussion: In addition to the regulation (just mentioned) which now allows psychologists to assume managerial positions outside of psychology services; there are other areas in which psychology will have to assume more responsibility. One of these is in the area of direct patient care. Many professionals see psychologists as providing an adjunct service only, i.e. psychological testing. While psychologists are primarily responsible for psychodiagnostics, there are additional areas which profit from behavioral science techniques and methods which the psychologist is uniquely trained for. Management procedures for patients that exhibit inappropriate behaviors while on a ward; pain clinics; weight and smoking clinics; child and family therapy clinics; behavior therapies; short-term situational crisis adjustment therapy; rape prevention and treatment programs; human relations and human resource development programs, and

guidance and consultation in the method of scientific inquiry (research design and execution), are only some of the ways in which psychologists are becoming more involved in direct patient care services.

3. Point: Post graduate training and professional education requirements versus a lack of training funds.

Discussion: The US Army does not require any more of psychologists than a doctoral degree in psychology. In order to maintain professional proficiency and legal status as practitioners there are a variety of state certification, licensing and continuing educational requirements. In order to maintain credibility and professional competency among our peers, psychologists are subjected to rules, regulations and requirements which are not recognized as official requirements of the US Army. In order to meet these professional needs, a psychologist must either have an understanding chief in his military assignment, be willing to sacrifice leave time and money or not care. As funding becomes less available the competition increases for the dwindling dollars. In too many instances the final decree becomes one of the "MSC officers do not need any professional continuing education like the 'real Docs' do." Army Medical Department members must realize that while we do wear the Medical Service Corps brass, we are responsible for providing a distinct service directly to patients, and this requires a systematic continuing education program on our part.

4. Point: The role of the AMEDD Psychologist in the US Army: in competition with or in conjunction with other Army behavioral scientists?

Discussion: The Army Medical Department is assigned the task of providing medical support, both treatment and prevention, to the US Army. This is carried out in a total team concept with applied psychology being a portion of the AMEDD behavioral science team. Research psychologists are part of the total medical research effort. It is certainly recognized that good preventative mental health practice becomes community consultation. It is also recognized that other non-AMEDD personnel are also trained in certain aspects of community consultation. This includes the Chaplains, Human Resource Development personnel, RR and EO people, Organizational Effectiveness Staff Officers, AER staff and volunteers to mention a few. The graduate training of the AMEDD psychologist in most cases far exceeds that of other non-AMEDD behavioral scientists. For this reason we can be seen as being available, as time and workloads permit, to serve as consultants to others who are working in these areas. Information regarding the conduct of training programs is certainly an area in which we have something to offer. Methods of evaluation or the proper design of research projects are other areas in which we have expertise. We can also lend advice on organizational behaviors or group dynamics. Realizing it becomes a

task to be everything to everyone is one thing, lending advice and consultation to fellow behavioral scientists is another. We should be prepared to become involved and assist, when and where it is appropriate. In areas of medical research much emphasis is on environmental research, especially in areas of health hazards. Epidemiology of drug and alcohol abuse is also of great concern to medicine. A conflict facing some research psychologists regards research limitations dictated by demands of Army medicine (i.e. research limited to specific medical problem areas) as opposed to research regarding various investigative areas (i.e. sexual differences, racial differences, etc.). There are other Army behavioral science research agencies (i.e. Army Research Institute) which also do psychological and behavioral research.

5. Point: The future of psychology in the Army.

Discussion: In recent years several things have occurred which have had a direct effect on AMEDD psychologists. The AMEDD Graduate Student Program in Psychology was terminated in 1974. In FY 77 most of the people recruited for this program will complete their training and be assigned as AMEDD psychologists. The current method of procurement is primarily direct commission of fully qualified civilian psychologists, or entrance on active duty of ROTC, educational delay personnel. The MSC personnel people indicate that procurement of MSC psychologists is no problem. What we know in HSC is that retaining these officers is a problem. In the past year, 22 HSC psychologists have left active duty, this is a 33% turnover. While some of the service terminations were involuntary (e.g., promotion passovers, disapproved requests for extension of service), it is apparent that we are unable to retain all of our good people. HSC has begun a study (conducted by the Health Care Studies Division of the Academy of Health Sciences) to evaluate psychologist retention factors. Hopefully, this project will provide some information to help us to retain more of our psychologists. On the positive side, though, more officers are asking to remain on active duty beyond their initial commitment. This is a reflection of the current job market of course; but it also indicates that more people are seriously considering a career in Army psychology. Because of actual manpower restrictions, the Army is unable to bring on active duty enough psychologists to fill every vacant position. Several MEDDACs and some medical centers do not have all their authorized psychologists. This is also true of psychology positions outside of the Army Medical Department. As previously mentioned, AMEDD psychologists are receiving positions of greater responsibility. If a psychologist desires a job working in the same location for the rest of his working life, the Army cannot provide this. If a psychologist is interested in a career which will provide opportunities which will demand more leadership and responsibility as experience increases,

then the Army has much to offer. While the Army cannot satisfy all the vocational needs of everyone, it can provide a rich and varied career to challenge many. We hope to make it even better.

AD P003722

Proceedings of Current Trends in Army Medical Service
Psychology November 8-12, 1976, Ft Sam Houston, Texas

PSYCHOLOGICAL CONSULTATION IN PREVENTIVE DENTISTRY

Robert F. Smith
C, Psychology Service
Darnall Army Hospital
Fort Hood, Texas 76544

In its efforts to be more successful in helping patients to attain and maintain oral health, the dental profession has begun looking to the behavioral sciences for help. In the military, especially with its shortage of health care professionals, dentists have begun to focus their attention on preventing oral disease in much the same way as behavioral scientists have turned toward a primary prevention model. Dentists have come to realize that findings from the social sciences, especially psychology, can be applied to train and motivate patients to greater oral health care procedures. For example, dentists are now using behavior modification strategies, principles of motivational psychology, and group training programs in working with patients (Durlak and Levine, 1975).

For nearly two years, the author has served as guest consultant to the Preventive Dentistry (PD) Service and the Dental Therapy Assistant Program at Fort Hood. The main thrust of the efforts (as defined by the Chief, PD in his formal Letter of Appreciation) has been on how to establish "high-trust, low-fear relationships" with patients. The author has attempted to accomplish these goals through a variety of behavioral science methods including practical exercises in group dynamics, awareness training, experiential learning procedures, numerous discussions on human relations and helping, transactional analysis, and lectures on topics of concern to the PD group composed of interested dentists, hygienists, residents, and assistants. This consultation program is ongoing and continues to receive praise from the PD Service as well as from other persons associated with the Fort Hood Dental Department. No formal method of evaluation has been attempted at this time.

METHOD

DESCRIPTION OF HOW THE PROGRAM WAS CONDUCTED

Initial Contact: The Fort Hood psychological consultation in preventive dentistry program began when the Chief, PD contacted the Mental

Hygiene Consultation Service (MHCS) requesting assistance from the behavioral sciences with the development of his program. The author was chosen to help because of his interest in community and organizational consultation. The Chief, PD had recently been on military assignment in Germany, where for approximately three years, he had called upon the services of military clinical psychologists as consultants.

First Phase: The first exposure of the author to PD services at Fort Hood was a small group meeting of interested dentists, hygienists, and the Chief, PD. At this meeting, the author became aware, for the first time, of the importance of individual responsibility of the dental patient in preventive oral health care. Also discussed were PD goals and how behavioral science principles can help facilitate attainment of these objectives. An overview of Army PD programs in Europe (Beesley, 1974) was presented and was contrasted with dental services available at Fort Hood.

Second Phase: The second step of psychological consultation was an assessment of the current PD program operational at Fort Hood. This program consisted of a centralized Oral Disease Control Facility (ODCF) where nearly all newly arrived soldiers were required to attend a large group, one hour orientation class on preventive dentistry concepts. This class was also a prerequisite to obtaining general dental services for most dental patients at Fort Hood. The other type of PD activity at Fort Hood was decentralized and individualized patient education in the dental chair by dental staff members who had an interest in preventive dentistry. The psychologist's role at this time was to observe the various parts of the total program and to offer recommendations for improvements.

Third Phase: After having attended the ODCF class himself, the author constructed a flow diagram of the dental care delivery system at Fort Hood based on observations and informal discussions with dental patients and dental health care providers. This diagram included PD goals and ideas of how to motivate both patients and the dental staff toward greater preventive dentistry efforts within the structure. The ODCF was felt by the consultant to have certain advantages in reaching a greater number of patients than could be attained at the dental chair alone. However, the ODCF was equally disadvantageous in "turning off" patients by "talking down" to them and through coercion. These observations were relayed back to the Chief, PD and his staff in a general feedback session. Recommendations for changing certain ODCF aversive tactics were also discussed. Emphasis was placed on positive reinforcement and patient attitude.

Fourth Phase: Following the initial contact, psychological assessment, and feedback session, the author began the current phase of the consultation program. This phase is ongoing and consists of once a month

small group discussions with the PD staff. Consultation topics have included human relations training, goal setting, group dynamics, trans-actual analysis, role playing, learning theories, attitude change, behavior modification, and other issues of concern to the group. Trans-actual analysis has been an especially good modality for assessing the doctor-patient relationship and for motivating the patient (Boulton, 1975). Frequent meetings of the consultant and the Chief, PD are conducted for continual reassessment of objectives, growth of the program, and direction setting.

RESULTS

No statistical method of assessment has been attempted. However, comments from members of the PD staff are highly favorable. They seem to view the author (and behavioral sciences) as the authority on attitude change and patient motivation. Other dental personnel at Fort Hood also seem pleased with the PD program. PD staff members have, in essence, been trained as psychological consultants to their respective clinics and have begun conducting small group training programs for interested patients.

DISCUSSION

One major change that has taken place at Fort Hood was the closing of the ODCF. This mandatory PD class received innumerable complaints from irate patients, especially dependents and senior military personnel who resented "being put down" as told to the consultant during his assessment of the dental care delivery system. Rather than attend the class, they would simply avoid the dental office except in emergencies, e.g., acute dental pain. Consequently, instead of preventing dental problems, the ODCF appeared to be resulting in the opposite effects for many people. The psychologist was not directly responsible for this change but he did make suggestions for similar improvements in ODCF to reduce patient hostility and to increase patient motivation for further preventive dentistry instruction and practice.

In general, psychological consultation in preventive dentistry at Fort Hood has been most rewarding for the consultant. He has received not only "red carpet" treatment from the dental department but also "discovered" a new area open for psychologists interested in expanding their consultation services. Dentists have likewise found that psychologists can be a real asset to them especially with respect to techniques of "persuasive prevention."

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THE PARTICIPANT/PROBLEM ORIENTED CASE CONFERENCE: AN ALTERNATIVE
TO THE TRADITIONAL MODEL

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INTRODUCTION

As a predoctoral intern at a major VA training hospital, I initially became aware of problems associated with the traditional psychiatric case conference. During a weekly case conference, composed of representatives from all levels of the helping professions, the consulting psychiatrist completed his erudite analysis of the case by asking if there were any comments from others attending the conference. After several staff members had added their recommendations, I ventured to offer a theoretical opinion and a treatment suggestion. This appeared to be well received by the consultant. Following the conference, one of the senior psychology interns called me to the side and criticized me for participating in the conference. He explained that participation was not the thing for interns to do and suggested that I just observe what the experienced professionals had to offer. Internship behavior was rapidly modified, but the awareness of such implicit ground rules which appeared to be counterproductive to learning and to shared problem solving, led me to question the process of the case conference and stimulated me to conceive of a better way.

Since that event, I have attended many case conferences in a variety of settings: hospitals, university medical centers, community mental health centers, treatment centers, military mental health clinics, family life centers, schools, crisis centers, and drug treatment programs. My observations in these settings have continually confirmed my early impressions that there are problems with the usual method of case conferencing and that there is a more effective method to accomplish the task. In the typical case conference, the task is often poorly defined, the ground rules are rarely explicit, the climate is frequently stormy with interpersonal conflicts rather than cooperative effort, and the results are often impractical, lending little to effective problem solving.

Experience with the alternative model presented in this paper has been encouraging and has led to the hypothesis that the Participant/Problem Oriented Case Conference (PPOCC) minimizes the problems frequently found in the more traditional case conference. The PPOCC is easy to learn and easy to implement. It stimulates cooperativeness, enhances group problem solving, and avoids the pitfalls of the traditional case conference.

The purposes of this paper are: (1) to discuss the problems associated with the traditional psychiatric case conference; and (2) to discuss the theoretical assumptions of the PPOCC, the process and ground rules of the PPOCC, and the implementation of the PPOCC. Although the emphasis is on the psychiatric case conference, the PPOCC method has a broad range of application. It has been used successfully as a consultation model and as a supervision model. It can be used in any organization where there is a need for group problem solving. No attempt is made in this paper to scientifically validate the hypotheses presented. I believe that the ideas presented could be tested formally and that most of the ideas are supported by existing studies of group processes.

THE TRADITIONAL PSYCHIATRIC CASE CONFERENCE

The traditional case conference is typically composed of a group of mental health professionals with varying levels of training and diverse theoretical orientations. They meet together to discuss a case either for educational benefit or because there is some problem with the case that needs special attending. The task may vary from a curious exploration of an interesting case to serious diagnostic formulation and treatment planning. The number of participants may be two or fifty or more. The method of the group for accomplishing the often poorly defined task may range from an ambiguous unstructured to a highly structured format. The format will usually include the primary case manager's presentation of the history, presenting problem, diagnostic work-up, diagnostic impressions, and the treatment plan. The case manager may have some special impasse with the case. Often the case is presented to a consultant or perceived expert who will interview the patient in front of the conference and share his ideas with the group. The consultant may make recommendations. During the case conference there may be some discussion from a few of the observers who will ask questions or share opinions. The length of the conference is normally limited to a specified time which normally ranges between one to three hours. The location of the conference is often a formal conference room with the seating arrangement in a rectangular configuration. Participants and observers will often sit around a large rectangular conference table with overflow observers

sitting in an outer rectangle. There is seldom any discussion of the group process. Ground rules are usually implied and rarely discussed.

The method of the case conference is most frequently learned by accident at a large teaching hospital. The resident or intern learns it by the same method that most parents learn parenting--by osmosis. The student finds himself sitting in case conferences out of a necessity to meet the requirements of a program. He will primarily focus on the case being presented in order to not miss some salient point which he may be required to regurgitate on some examination or may need to know in some lonely moment of truth with a patient. His focus is rarely on the process of the group. The content of the conference dominates and is absorbed with little or no serious consideration of the dynamics of the group. This neglect of group process is encouraged by the fact that many training programs, in general, do not emphasize an understanding of organizational group dynamics. The student learns to do what is being done with little consideration of what is being done. Due to the uncritical nature of this type of accidental learning, the problems of the case conference method are perpetuated from professional generation to professional generation. The new graduate goes to his respective professional assignment ready to do things that he is often unaware of doing.

A Martian view of the case conference reveals dysfunctional communication behaviors, power games, and many misconceptions. A few verbal members appear to monopolize the group. Often the group is dominated by one particular school of thought to the exclusion of a more Holistic discussion. Often significant time is given to theoretical diagnostic discussion which lends very little meaningful treatment strategies and tactics. The case presenter may leave the conference with little practical information which will be of direct benefit to the problems of the patient.

Analysis of the interactions occurring in the case conference indicates that a variety of dysfunctional communication behaviors occur which detract from efficient problem solving. Among the interactions seen are: Crossexamining, Judging, Sharp-shooting, Glaring, Withdrawing, Selling, Sermonizing, Moralizing, One-upmanship, Hornblowing, Exhibiting, Brow beating, Brinkmanship, Name-calling, Placating, and Back-scratching. These dysfunctional interactions tend to generate a climate of defensiveness and power plays. It is not uncommon for the process observer to see the following power games transpire in the course of one case conference: "King of the Roost"--"Super-Dog"--"Pony Show"--"Show-an-Tell"--"Impotent"--"Theoretical Sel-Abuse"--"Theoretical Warfare"--and many others. Haley (1970) was aware of the power issues in case conferences. In an article which explained how to sharp-shoot your fellow therapists in the case conference, he wrote:

This brief review of how to criticize therapy is offered for participants in case conferences who are faced with presentations of a variety of kinds of treatment approaches. It is based upon observation of experts who have learned to follow the fundamental rule of the modern case conference: Whatever therapy method a fellow therapist is offering it is not quite the right one.

The dysfunctional behaviors and power games are partially motivated by the misconceptions hidden in the implicit rules and assumptions of the group process. As each individual adheres to these misconceptions, the probability of interpersonal power struggles increases. Some of the more obvious irrational rules and assumptions of the traditional case conference include:

1. Only after years of experience and multiple degrees can a person have ideas worth contributing to the conference.
2. There is an order of descending competence in the helping professions--Psychiatrist--Psychologist--Social Worker--Paraprofessional--School Teacher--Clergyman--Interns--etc.
3. There is only one good theory. There are absolute answers in this business and I am absolutely right!
4. There are experts who have all the right answers, and their thoughts are worth more than the collective thoughts of a diverse group.
5. Those who talk loudest and most frequently know the most. Grooming is also a good indicator of a knowledgeable source.
6. We don't need to be aware of what we are doing, just do it. We only talk about what patients do and theories. Don't look at group process. This interferes with the task.
7. What group members think and feel is irrelevant to getting the task accomplished.
8. Unstructured groups accomplish tasks just as effectively as structured groups. We can get the job done without talking about how we are going to get it done.
9. We don't need to learn how to do case conferences. We automatically know how to do effective case conferences.

The interpersonal conflicts that occur in case conferences often have their effect long after the conference. The lack of awareness

and neglect of group process often results in strained interpersonal relationships and organizational conflict that detracts from the overall organization's tasks. Dysfunctional behaviors, power games, and misconceptions take time and energy which could be more productively used in creative problem solving.

The problems associated with the traditional case conference could be minimized by looking at what is taking place and by deliberately structuring the group process in a manner that makes the rules explicit, exposes irrational faulty assumptions, and creates a climate conducive to effective cooperative group problem solving. The Participant/Problem Oriented Case Conference is an attempt to eliminate dysfunctional communication behaviors, power games, and misconceptions from the case conference.

THEORETICAL ASSUMPTIONS OF THE PPOCC METHOD

The basic theoretical assumption of the PPOCC method is that a group generally increases its problem solving ability in a nonthreatening atmosphere of mutual participation where there is acceptance of individual views. It also helps if there is an awareness of group process, the task is clearly defined, the group is structured, and the rules are made explicit. Such a group will increase its task productivity and facilitate fulfillment of individual needs. This will tend to extinguish misconceptions, dysfunctional behaviors, and minimize power games.

Rogers (1969) has written at length about the conditions most conducive to learning. The following hypotheses of conditions for learning are taken from a poster published by Learning Associates, Box 243, Boston, Mass. 02199. They are representative of Roger's conclusions and are the major theoretical formulations upon which the PPOCC operates:

1. An Environment of Active People: People learn when they feel they are personally involved in the learning process.
2. A Climate of Respect: When a high value is placed on individuality, and a sense of caring prevails.
3. A Climate of Acceptance: Accepting a person means that he can be himself and hold his beliefs.
4. An Atmosphere of Trust: When people end up feeling a trust in themselves and in others.

5. A Climate of Self-Discovery: When learners are helped to meet their own needs rather than having their needs dictated to them.
6. A Non-Threatening Psychological Climate: So that persons can confront persons, and ideas confront ideas without fear.
7. A Climate of Openness: When personal concerns, feelings, ideas, and beliefs can be expressed and examined openly.
8. An Emphasis on the Uniquely Personal Nature of Learning: When each individual knows that his values, his beliefs, his feelings, and his views are important and significant.
9. A Climate in Which Difference is Determined to be Good and Desirable: When differences in people are acceptable as differences.
10. A Climate Which Recognizes the Right of Individuals to Make Mistakes: Learning is facilitated when error is accepted as a natural part of the learning process.
11. An Atmosphere that Tolerates Ambiguity: When alternative solutions can be explored without the pressures of immediate answers.
12. An Emphasis on Cooperative Evaluation and Self-Evaluation: When people can see themselves as they really are, with the help of their peers.

When a case conference group approaches these ideals, there is less tendency to power and more of a tendency to work in a cooperative problem solving capacity.

Although there are many reasons why a case might be presented in a staff conference, the most frequent reason is that the case presenter has reached some type of impasse. He has exhausted his alternatives for solving a problem and is stalemated. He would like ideas for problem resolution that he has not yet considered. The case is presented with some expectation that the group effort will result in some formulation that will break the impasse and offer practical solutions which can be operationalized.

This is a difficult position for the presenter. He must admit that he did not have the right answers and to some degree has fallen short. A person in this position is especially vulnerable to criticism. While it would be desirable if the presenter could realize that he is fallible, may never have the right answers, and is prone to imperfect

problem solving, the human tendency is to perceive his behavioral imperfections and limitations as threats to the self. If this person is placed in an environment of censure, there is a high probability that the individual will become defensive and barricade himself from potential problem solving alternatives. In such an environment, the person will tend to be guarded and will have a difficult time being honest with himself and others. However, if an accepting atmosphere which minimizes defensiveness and recognizes that humans are fallible problem solvers, can be created, the individual can feel free to discuss problems and be open to suggestions which may lead to resolution.

In contrast to the traditional case conference, the PPOCC operates on the basis of the following explicit assumptions:

1. Every group member brings his unique experiences to the session. His thoughts on the case are potentially helpful if they are shared with the group.
2. Degrees do not necessarily determine competence. Competence is not an absolute quality which is conferred on persons. Competence is often situation specific. Dr. X may do well in situation A but be incompetent at B.
3. The collective experiences of the group are usually more beneficial than the voice of one person -- NONE OF US IS AS SMART AS ALL OF US.
4. There is no one theory, at the present state of the art, which should have a monopoly over all others. Rather, there are many theories and hypotheses that require considerable testing before absolutes can be promoted. The best chance of arriving at a meaningful solution is a holistic approach.
5. Often the quietest person in a group is the most pensive and has the more profound ideas if they are given the opportunity and encouragement to share those ideas. STILL WATERS RUN DEEP....AN EMPTY WAGON RATTLES MORE THAN A FULL ONE.
6. Being aware of group process and discussing those awareness facilitates task accomplishment.
7. Group members' thoughts and feelings directly effect how involved and how effective they will be in accomplishing the group task.
8. How a group is structured will affect what tasks are accomplished and how well the task is accomplished. Even the physical arrangement of the group can influence task outcome.

9. We do not automatically know how to conduct case conferences.
We normally learn best when we are aware of what we do and
act deliberately.

Table 1. summarizes the basic differences between the Traditional and
the Participant/Problem Oriented Case Conferences.

TABLE 1. A COMPARISON OF THE BASIC DIFFERENCES BETWEEN THE TRADITIONAL
AND THE PARTICIPANT/PROBLEM ORIENTED CASE CONFERENCES

<u>TRADITIONAL</u>	<u>PPOCC</u>
1. Limited participation	1. Maximum participation
2. Professional racism	2. Equal participation
3. Often absolutistic	3. Eclectic/Holistic/Relativistic
4. Emphasis on experts	4. Emphasis on collective brainstorming
5. Solely task oriented	5. Task and process oriented
6. Competitive and generates Power Games	6. Promotes cooperative action
7. Learned by accident	7. Learned deliberately
8. Implied ground rules	8. Explicit ground rules
9. Outcomes often abstract nonoperational	9. Outcomes practical and operational

PROCESS AND GROUND RULES

The PPOC consists of three distinct phases with each phase having its own ground rules. Figure 1 (Page 14) illustrates the phases with their respective rules. The case conference may consist of one cycle through the three phases or several cycles depending on the needs of the group. The phases are followed in order with the particular ground rules enforced at each phase. General ground rules include:

1. An agenda is set at the beginning of each session which determines the number of cases to be discussed and the time limits.
2. A participant/facilitator is chosen who will have primary responsibility for enforcement of the ground rules and assumptions.
3. The format (phases) will be followed.
4. All participants have a responsibility to enforce ground rules and promote the assumptions of the group.

Phase one is the Presentation Phase. The primary tasks of this phase are presentation of the relevant facts of the case and negotiation of a contract. A case presenter shares an overview of the case while the other participants listen. The order of presentation of the facts is not specified, but could be structured if the group desires. Participants may ask questions for clarification or additional information, but they avoid judgmental statements such as "Why didn't you..." or "You should have..." There is an attempt to own statements and encourage self responsibility by using the word "I" at the beginning of statements and avoidance of the pronouns "YOU", "WE", or "Lets". The case presenter makes a clear statement of what he wants from the group. An attempt is made to be specific and realistic in the request. He may ask for just the opportunity to share with the group what a fine job he did in managing his case and get some "strokes", or he may request treatment planning ideas, diagnostic assistance, suggestions on transference or countertransference issues, etc.. The request is the responsibility of the presenter. The group negotiates the contract and phase one continues until everyone is satisfied that all available facts are out, the presenter's request is clearly understood, and a contract is agreed upon by all members of the group.

Phase two is the Feedback/Brainstorming Phase. The primary tasks of this phase are the generation of conceptual/theoretical ideas from

each participant (with exception of the presenter) and practical suggestions. While the presenter listens, each participant shares his ideas and suggestions with the group. Each participant, with the exception of the presenter, is expected to share his thoughts concerning the case. This can be done in random order or in a specified sequence. The presenter may ask questions for clarification or added information, but cannot make defensive statements or justification of his actions. No participant is allowed to make statements of challenge or of a debatable nature. The group facilitator and all participants monitor the transactions and mutually encourage open sharing vs defensive put-down transactions. They make an effort to communicate suggestions in a practical and operational manner. Each participant is invited to "put themselves in the presenter's shoes." The following question is often asked, "If this were my patient, and I had to see him today, what would I do?" Diagnostic formulations are more helpful if they offer treatment hypotheses. Terms like "Insight therapy" or "Relationship-Oriented therapy" are avoided since they offer very little operational data for a treatment plan. This phase continues until each participant has shared his ideas and suggestions.

Phase three is the Summary/Decision Phase during which the task is for the presenter to summarize what he has heard from the group and he shares his conclusions and plans with the group. Other participants listen and are supportive to the presenter by offering encouragement and acceptance. They all recognize that the basic responsibility for the case usually rests with the presenter and they know from experience that the responsibilities of a therapist when alone with the client can be awesome. The group trusts the presenter with those responsibilities and lends him support. The group also recognizes that the decisions of the presenter are not commitments from which the presenter cannot deviate when the situation demands. They recognize that there are few absolute answers in the business of helping people change and that each case is an experiment that requires continual assessment and varying treatment interventions as the therapeutic situation varies.

An optional task of phase three is group processing. The participants may want to take a look at what has happened in the group. They may want to explore transactions and share reactions to both overt and covert communications. This is an opportunity to air interpersonal issues that may have evolved during the group session. This task is optional in that time does not always allow for an in depth analysis of the group process. Groups generally benefit from an opportunity to look at themselves even if only for a few minutes. Another option is to have a few minutes for group processing at the end of all the case presentations before the entire conference terminates.

FIGURE 1. THE THREE PHASES OF THE PPOCC

I. PRESENTATION PHASE GROUND RULES

1. Presenter shares relevant data.
2. Other participants listen and ask questions for clarification.
3. All participants avoid defensive interactions.
4. All participants avoid pejorative statements. (e.g. "Why didn't you..." or "You should have...")
5. Participants own their statements by using "I" instead of "You" "We" "Lets" or "Why" at the beginning of questions.
6. Presenter negotiates contract with the group. "What I would like from you is..."
7. This phase continues until all participants agree that the tasks are completed for this phase.



II. FEEDBACK/BRAINSTORMING PHASE

1. Presenter listens and asks questions for clarification while avoiding defensive comments.
2. All other participants, in turn, share their theoretical conceptualizations and suggestions based on the contract.
3. No debating allowed. Each person has an opportunity to present his unique views.
4. Suggestions focus on the practical. (e.g. "If I were going to see the patient in the next hour, I would...")
5. Continues until all participants have given their views with the exception of the presenter.



III. SUMMARY/DECISION PHASE

1. Presenter shares what he has gained from the discussion and his tentative plans.
2. Other participants listen to the presenter and offer encouragement and support.
3. (Optional) The group discusses thoughts and feelings regarding group transactions. Usually time limited.

IMPLEMENTATION

Before starting a PPOCC with a staff that is in the habit of the traditional psychiatric case conference, there is a need for careful consideration. You may not be in a position to make changes or to recommend them. It may be that you will have to live with what is until you are in the position to initiate change. Although you may not be the major decision maker, you may be able to talk the idea over with the chief of your staff. You may be able to use the PPOCC model in one of the settings that you function, although you may not be able to use it in all of the settings. Regardless of your position, remember that humans tend to resist change even if the change is for the better. Change is often slow and may require successive approximations. You will have to develop a deliberate educational plan for your staff in order to initiate change. There is usually less resistance to change and better cooperation if all persons involved, the highest to lowest ranking, contribute to the decision making process prior to change.

The following steps are suggested as guidelines for initiating the PPOCC once permission has been granted from the appropriate chief. This strategy will tend to minimize staff resistance and insure that the PPOCC is modified to meet the needs of the staff.

1. Present the ideas and assumptions of this paper to your group. Have them discuss problems that they see with the existing conference. You may even have them each independently do a nonverbal drawing of how they feel about the existing conference method. Then have them do independent drawings of the ideal case conference. Discuss and summarize the groups thoughts regarding pros, cons, and ideals.
2. Present the basic assumptions of the traditional and PPOCC methods.
3. Present the format and ground rules of the PPOCC.
4. Do a trial run using a real case problem.
5. Discuss thoughts, feelings, and general reactions to the trial run.
6. Negotiate modifications. They may want to modify the format in some manner to fit the needs of their particular group.
7. Make a commitment to the PPOCC for several weeks. Specify a date when you will evaluate how the method is working and decide what the group wants to do with it in the future.

8. Periodically evaluate what the conference is doing and how members feel about it. Be open to changes for improvement by having a system that makes openness to change a possibility.

One problem that is often encountered in implementing the PPOCC is the size of the group. This method works best if the group is no larger than ten members, but can be successfully used with larger groups by making one of the following modifications:

(1) Limit each participant to a specified amount of time during Phase II.; or

(2) Randomly select ten persons from a large group who will be participants and the remainder observe. (at the conclusion of Phase II observers may give feedback if they wish).

SUMMARY

This paper has presented some of the problems associated with the traditional psychiatric case conference and has proposed an alternative--the Participant/Problems Oriented Case Conference. Suggestions have been made regarding the implementation of the alternative method. I believe that most of the problems of the traditional conference can be minimized by the PPOCC method. This systems approach is not intended as a panacea for the very human and often irrational and ineffective behavioral transactions of mental health professionals in the case conference. Rather, it is presented with the expectation that when mental health professionals are aware of what they do and how they do it, and work together in a cooperative manner, there is a higher probability of coping with their humanness and moving toward a more deliberate and effective problem solving outcome in the management of cases.

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REGIONAL PSYCHOLOGY CONSULTANT PROGRAM
OF CONUS ARMY HEALTH SERVICES

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THE BIGGER PICTURE

The Regional Consultant Program currently in effect throughout CONUS Army is the natural outgrowth of the visiting consultant program which in the past was offered by General Hospitals to their surrounding Station Hospitals. Prior to that time, station hospitals referred patients to general hospitals. And, while some sort of rapport evolved with members of the general hospital staff, it was a rare event when a military consultant visited these smaller hospitals. Station hospitals did take advantage of civilian consultants within their region, as the MEDDACs continue to do today.

Psychology Services within the MEDDACs never took full advantage or perhaps did not acquire the priority rating necessary to compete for the funds for such a program to bring in outside consultants. About the only place where this phenomena existed routinely for psychologists was in the General Hospital internship sites.

It was not fully appreciated until recently that there was a considerable amount of consultant talent within our general hospital or within the general hospital catchment area. When the general hospitals finally began to send members of their staff to the MEDDACs, and this had been given considerable impetus by General Whelan, recipient commanders and consultants alike began to realize the importance of this service.

As the type and diversity of medical care of the MEDDACs were extended and the training programs in subspecialties expanded, the concept of a Medical Center naturally evolved and subsequently so did the concept of regionalized medical care.

An Army Health Services Command Letter, dated 25 March 1975, provided guidance to Medical Center Commanders for implementing the Re-

gional Consultant Program. Its main purposes were twofold. First, it was to provide consultant services to regional MEDDACs by professionally qualified specialists for interesting and/or complex cases, particularly in those specialty areas that cannot be covered by assignments (i.e., Allergy, Neurosurgery, Hematology, to name a few). The notion was that a MEDDAC was without professionally qualified specialists and that visiting consultants would augment patient care. This may be true for some specialty areas of medicine, but it is not generally true for psychology except at those settings without assigned Psychology officers.

The second official purpose of a Regional Consultant Program is to inform the regional MEDDACs of the services available at the Medical Center; and by establishing proper rapport, to promote the transfer of suitable patients that will enhance the value of the Medical Center training programs. Even though it would be today an extremely rare instance for a patient to be transferred from a MEDDAC to a MEDCEN for solely psychological evaluation and treatment, Commanders of MEDDACs need to be informed of and receive guidance in the use of psychological services available within their own commands and at MEDCEN.

Major General Neel, Commanding General of US Army Health Services Command, feels very strongly that the Regional Consultant Program is the best system to effectively sustain the quality of Army Health Care, particularly in the next several years when we will be experiencing a critical shortage of certain specialties. As a spin off, the Regional Consultant Program may reduce CHAMPUS costs by retaining more patients within the military system.

As you may have surmised, the Regional Consultant Program is not just an Army Psychology movement. In point of fact, the orders appointing the author as MEDCEN Regional Psychology Consultant contain representatives from forty specialties. Although consultants have been appointed in most specialties, travel funds have been limited to those areas involved in direct patient care. Commanders of Medical Centers have control, and authorize the use of, the funds for the program.

REGIONAL PSYCHOLOGY CONSULTANT ROLE

Regional consultants are mandated by Health Services Command Letter, dated September 1975, to be working consultants, clinically oriented. They are not to be confused with consultants of higher headquarters whose responsibilities are concerned largely with administration, assignments, formulation and enforcement of policies concerned with the health of the command.

Just as the MEDDAC Commander expects medical specialty consultants to make patient rounds and discuss the diagnoses and/or management of perplexing or difficult cases, he anticipates the psychology consultant dealing with issues of health care delivery within a Psychology Service. Any visit by a regional consultant should be arranged sufficiently in advance to allow adequate preparation for a worthwhile trip.

The Regional Psychology Consultant may be asked to prepare a lecture or facilitate a workshop on some subject of current local interest. In addition to offering lectures, seminars, or workshops, the psychology consultant may assist the visited psychologist in appraising direct patient support functions. He may also assist his associate to further define the scope of future activities and offer comment on how to implement service plans. Some psychologists have taken this opportunity to discuss professional development avenues available to them at their own setting and within other regional locations.

MEDDAC Commanders may wish the consultant to comment specifically on some deficiency such as adequacy of the staff in relation to workload, in order to place added emphasis at higher headquarters. Matters concerning deficiencies in internal operations and administration are by directive not to be addressed unless the visited Commander specifically requests that this be done.

General Neel emphasized that the consultant is not an evaluator, and he should not be looked upon as one. The consultant is to be viewed as a resource to the MEDDAC when he visits. One of the consultant's goals may be to increase a MEDDAC Commander's awareness of the professional capabilities of the psychologist(s) aboard. He may also emphasize the psychological services available and may comment on how these may be used to cut financial and human costs of transfer or referral to Medical Center for routine or special consultations.

For cases where "Psychiatric" transfer is indicated, the consultant may offer advice regarding the psychology services available at the Medical Center. It is not unusual that sought resources can be found within its own psychology assets. There is also opportunity to emphasize that local psychologists are the best resource advisors on what is available locally and at Medical Center in the way of psychological services. Visited psychologists are often encouraged to assist in identifying the need for and the coordination of these services.

The Psychology Consultant to a region must view his role beyond that mandated. As officially defined, the consultant's responsibilities to a MEDDAC end with the submission of an "after-action" trip report. (By the way, a copy of this report should eventually filter down to the visited Psychology Section or Service.) There are how-

ever some intensely felt and unresolved needs pre-eminent among psychologists in the field. Psychologists are talking about their desires for a sense of professional community and collegueship and for feeling a sense of being apart and belonging. By and large they are experiencing professional abandonment in isolated MEDDAC assignments. Identity with Army psychology has indeed been a major problem in the last couple of decades for many psychologists. The concept of decentralizing consultants into the health services regions sets the stage for possible ways of dealing with some of these feelings, wishes, needs and professional development gaps.

The Regional Psychology Consultant is not only a point of contact and a potential resource person, but he must also at this point in time begin to pull together and coordinate resources within a region. Regional consultants must know the professional asset and special talents of the psychologists in the region. He must become acutely aware of what psychologists want to do, but do not know how or are having difficulty due to system constraints. He must attempt to help his colleagues and provide a regional climate for professional growth, satisfaction, and identity.

Many of the controversial issues brought up in informal conversations during this conference about the practice of psychology in the Army are not generally unique to our discipline. They are situation specific and that is where the uniqueness lies. These matters require much exploration, discussion, and considerable strategy and planning. Regional consultants may be able to assist in these local program development efforts.

In terms of developing new mental health care programs, psychologists in the field are finding much success. They are making changes and they are setting trends. Psychologists are being seen as prime designers and as valuable assets by MEDDAC Commanders. They are receiving applause, yet they are deaf to the noise. It is almost as if the acclaim received lacks the gusto and measure of importance normally gained from peer sharing and appraisal. The success of regional psychology programs will depend in part on their capability to provide a regional forum for professional peer interchange.

All CONUS Regional Psychology Consultants are gathering in February of next year to formulate plans and to initiate action thrusts to bring within reach of MEDDAC psychologists - more than what has been ever before possible - those professional resources of operational and discipline value.

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PERSONAL MANAGEMENT OF ADMINISTRATIVE MATTERS FOR
ARMY MEDICAL DEPARTMENT PSYCHOLOGISTS*

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INTRODUCTION

In 1944 there were 986 psychologists in the Armed Forces. These together with former colleagues in the then War Department made up two-thirds of all psychologists in the United States under the age of thirty-nine. Applications of psychological points of view were then numerous indeed. One major task of our predecessors in the Classification and Replacement Branch of the Adjutant General's Office was to assess human capacities for selection and placement of soldiers. The seeds sowed by our professional kinsmen have germinated over the past 35 years. The present Military Personnel Management System is the result of hybrid generations, inbreeding and mutations of previous informational processing.

Better than anyone else we AMEDD psychologists of today, by virtue of our heritage and training, should be able to contend with the employed conceptual constructs of, and find some successes in mastering, the US Army personnel information system used today.

Like our predecessors we continue to strive to seek quality data in our daily applications of our profession, but over the years we have ignored or thought light of data that is obtained on ourselves. Also, we often have fallen into the trap of presupposing that people who matter in making decisions about us know how unique a breed we psychologists are - after all, we historically helped to plan and develop among other things the present information and selection systems.

*Statements herein reflect only that compiled by the author after personal experience and review of official and unofficial guidance. They are time limited and do not necessarily represent the opinion or policy of the Department of the Army.

One day, any one of us may receive the following notification:
"SUBJECT: Notification of Temporary Promotion Status

1. A Department of the Army Promotion Selection Board, which adjourned on ____ April ____, considered officers of your grade for temporary promotion. While all eligible Medical Service Corps officers were considered, not all were selected. You were among those officers considered but not selected.

2. The selection board must arrive at an opinion as to the qualifications of an officer to assume the higher grade. For this purpose, all available records are furnished to the members of the board. In their deliberations the members of the board consider numerical ratings and narrative comments recorded in efficiency reports, commendations, and any other items which reflect the potential of the individual. The board considers not only professional experience and qualifications but also military experience. In some instances persons who are qualified professionally may not have been on active duty for a sufficient period of time to have accumulated the military experience necessary for promotion to the next higher grade. Nonselection, therefore, is not necessarily an indication of any disparity between your professional qualifications and those of other persons considered by the board. A selection board is not allowed to disclose any of the details of the board proceedings. Consequently, no specific reasons can be given as to why you were not selected for promotion. The recommendations of the board are final.

3. Provided you are eligible as specified in AR 624-100, you will be considered by the next consecutive selection board for the higher grade involved. The next board will be composed of entirely different members."

(The letter is signed by the Deputy for Personnel Services by the order of the Secretary of the Army.)

Colleagues among us today may have already or might in the future receive a similar letter. Personally, this letter is apt to precipitate an onrush of a wide variety of intense emotions within the recipient. It did in me. After a number of days and much consternation I began to realistically assess whether my unfulfilled expectations were based on grandiose constructs that I may have held about myself. It may have been the case to some extent, but that was not the whole story.

REFLECTIONS

The contents of the letter reflected the collective judgment of others working under guidance and criteria for selection. According to the guidance they received, the board did not deem me qualified to assume a higher grade. Yet, I was sure something was in error. I found myself obsessing over the matter. Terms like, "my hopeful anticipation" and "my error of prediction" and my subjective experience of anger converged curiously one day into memories of my masters level training at Fort Hays Kansas State College. Other than being a small college in the open plains of western Kansas, it is also renowned for being one of the last academic homes of Dr. George Kelly of "Personal Construct" fame.

I found myself reaching to my library and beginning to glance over selected papers of Dr. Kelly (Maher, 1969). I came across the following passage that made a lot of sense at the time and gave me a sense of direction in my quest for constructive action. It read:

"If man is to comprehend (...) events at any level (...) he must anticipate them. This means predicting in some manner when and how they will occur. If what turns up resembles what he expected he can say his prediction was confirmed, at least in part. If it does not, he had better do something about it or reconcile himself to being left out of the goings-on.

"The apparent failure of a prediction calls for reassessment. That may mean reidentifying the events from which inferences were drawn, reconsidering the inferences themselves, or questioning the constructs one has employed in structuring his psychological space (p. 38)."

These statements were not complex. They were not something I had not heard before. In fact, it had simplistic and basic qualities to it. In any case it brought my attention to the fact that the board made inferences about me. I now had a choice. I could "constrict my field of vision" and focus my attention solely on me and mend wounds and go on somewhat "in the dark." Or, if I was willing to tolerate some uncertainties, I could "broaden my field of vision" and perhaps extend my predictive range by trying to understand the collective construct experience of the selection board.

PRETESTS

Dissecting the notification letter I received, I attempted to formulate the collective personal construct system against which I

was judged. I discovered that the board's experience could neatly fit within Dr. Kelly's theoretical frame of reference. After all, promotional selection is not to be considered a reward for commendable service as behavior theorists would like to contend. An officer's behaviors are better thought of as independent variables that either match or miss the "commonality" mark of some elusive yet pre-designed construct system of Military Personnel Center (MILPERCEN).

The letter otherwise implied the dichotomous constructs used by the board to enhance its accurate anticipation of an officer's potential. It followed that the two constructs may well have been: "Promotable" versus "Passed Over." (Since these constructs were interpreted as "good" versus "bad" in my construct reference system, I reacted with intense emotional episodes to the inferences made to my "badness." My felt anger was, according to Kelly, my attempt to hold on to a construct of "goodness" inspite of being judged "bad.")

I then drew from the correspondence the characterizing constructs with which the board used in describing the "Promotable" role. It had something to do with "Professional Experience" being similar or related to "Military Experience." The "Passed Over" role was used to contrast and to define the opposite pole of their construct system.

My clinical bent had me thinking of MILPERCEN as some "patient" who needed assistance in altering his construct references, particularly as they pertained to me. Yet, I was not clear what references were involved. I did not know where to start. I seriously questioned whether I had the desire and/or the energy to find out.

Partly out of this curiosity, but also with the felt embarrassment and some left over resentment, I began to ask informed sources (AGs, JAGs, and other "Passed Over" officers) and began to study Army Regulations. Upon request, knowledgeable superiors reviewed my personal file of evaluation reports. Kindly words and possible explanations were rendered with empathy but mostly sympathy. The more regretful sentiment I received, the more I realized that my "brooding cup" was dissatisfying.

In the course of analyzing my behavior Dr. Timothy Leary's (1957) work came to mind. Dr. Leary predicted that embarrassing behaviors "pull from others" advisory behaviors. Also, it was discovered that resentful behaviors tend to "beg" responsible and take charge behaviors from others. An astute clinician soon finds out that what he "pulls from others" is in fact what he requires for himself.

I soon realized that there had to be more reason for my pass-over than what personnel material I knew or thought I had available in my own file cabinet. Thus, was born my adventure to take the ini-

tiative to learn particulars about the information system used by the U.S. Army Military Personnel Center.

SAMPLING ALTERNATIVES

As I thought globally of my debugging of MILPERCEN's informational and construct systems, the old axiom of "GIGO" first occurred to me. I discovered that, under the provisions of AR 623-105, I as a non-selectee and for cost of xerox reproduction could request copies of the OERs and Academic Reports on me that actually were furnished to the selection board for review. (I secretly hoped that one of my OERs would have been absent from my official file, for that would have easily explained their "outrageous error.")

As I awaited my copies, I boned up on Chapter 8, AR 623-105 regarding the OER Appeal System. The Army recognizes that some evaluation reports may contain administrative errors prejudicial to the rated officer or may not record objectively the manner in which the officer performed his duties. This appeals system is designed to promote justice and insure fairness to the officer and the Army, but at the same time seeks to avoid impugning the veracity or integrity of the rating officials without just cause.

An evaluation report accepted by MILPERCEN for inclosure in your official records is considered to have been prepared by properly designated rating officials and represent the considered opinion and judgment of such rating officials at the time of preparation. Raters, etc. may not therefore at a later date request a report be returned by MILPERCEN for amendment, revision, or submit a substitute report based, perhaps, on factors other than their observation of the officer's day-to-day performance.

Time limitations for appeals of evaluation reports are established. For the recent OER form, appeals must be submitted within two years of the "Thru" date shown on the report. Appeals on older forms (i.e., DA Form 67-6 and earlier forms) must be submitted within five years of the closing date of the report. A report beyond this time limitation is not subject to appeal, provided it can be determined by MILPERCEN that the officer had knowledge of its existence for at least two years.

Parenthetically, my original appeal (I eventually submitted two) was basically disapproved due to the fact that I had reviewed my Branch File some time beyond the time limitation and had not acted on it. Branch representatives brought my File to the field for me to review. I did not act because I did not know what it was that I should have acted on. I encourage you to be thoroughly familiar with AR 623-105 before you review your Branch File. It is very specific in enumerating the requirements for completing and for filing an OER appeal.

Mere allegation that a report is unjust or administratively inaccurate is not considered credible evidence. Examples of pertinent documentary evidence are listed in the referenced regulation. Although each case must be judged on its own merits, some examples of the type of documentation which make "bad" or "good" appeals may be helpful.

Evidence which is not likely to produce favorable action on an appeal include the following:

- *Statements from rating officials that they under-estimated the rated officer or did not intend to rate him as they did. Hind-sight does not swing much weight.

- *Requests that numerical or other ratings be raised.

- *Copies of awards citations. There is no correlation between awards received for meritorious service/achievement and evaluation report ratings. Approval of an award is not dependent upon ratings in a report.

- *Proof of minor administrative errors as a basis for invalidating an entire report.

- *Claim that a report should be voided because it is not indicative of the appellant's normal performance of duty over an extended period. Each report must stand on its own and consequently has no relationship to other periods of service.

- *General character references from individuals who did not observe the appellant during the period of the report itself.

These do not work! Nine out of ten appeal cases are denied due to the appellant's inability to provide sufficient evidence to prove inaccuracy, injustice, or prejudice in contested OERs.

Successful cases normally contain statements from third parties who were in official positions which enabled them to directly observe the appellant's performance of duty during the contested period and who can conclusively report that the rater/indorser was not aware of, or did not give the appellant credit for, accomplishments which actually occurred. Or, they may contain third party statements to the effect that the rater/indorser harbored bias and prejudice toward the appellant which was reflected in the contested OER.

Substantial evidence may include other documentary evidence from official sources. Unsworn statements or an appeal that alleges that an evaluation report is administratively incorrect is not substantial evidence. Pertinent documentary evidence should include, as appropriate

to specific claim, a certified copy of the evaluation report rating scheme in effect in the organization during the period and statements from the rating officials who completed the report and statements from individuals whom he claims were the properly designated rating officials. Other examples of evidence might be copies of assignment orders or TDY orders or SIDPERS records. It is important to note that all copies of documents must be certified as being true copies of the original documents.

If appeals are based on claims of administrative error, the matter is resolved by MILPERCEN. Those involving claims of injustice or substantive inaccuracy are forwarded through the officer's career Branch and then on to a DA Special Review Board for adjudication. Personal appearance before this Board is not authorized. The proceedings of the Special Review Board are nonadversary and administrative in nature.

I found it valuable and helpful to send an information copy of the final appeal draft to the Office of The Surgeon General, AMEDD Boards, Office of Personnel Services Division, since the matter will eventually be forwarded through this division of Branch as part of the process. Neither the Special Review Board nor the Branch agent are permitted to identify specific sources from which the officer may seek material evidence to support his appeal. We are left on our own resources to build a case.

If action taken on the appeal results in material change in the officer's file (i.e., invalidation or significant amendment) and the officer was not selected for promotion, his records are referred to a DA Standby Advisory Board for reconsideration. Appeal paperwork submitted this way is filed for informational purposes in official records and a copy is furnished to Branch.

When the copies of my requested records arrived after three weeks, I discovered that there was an office symbol of MILPERCEN which indicated specifically what material was furnished the promotion board. I looked for the "hoped for" missing OER. They had seen them all! Again, another scientist fell victim to the Razor of Occam.

Steeped in my expanded knowledge of regulations, I formulated my first appeal based on an administrative technicality regarding dates of a report period and an erroneous rater. I bombed out with a simple resulting date of report change and no referral of my case to the SRB for adjudication and no recommendation for promotional reconsideration.

PLANNED AUTHENTICATION

At this time I began to take seriously friends' recommendations personally review my official records. Good old Administrative Absence and the U.S. Air Force courier flights permitted my trip to Washington, D.C. without prohibitive personal expense.

It is important to comment here that it proved profitable that I had compulsively acted out my obsessions by categorizing all my personal copies of any official-looking papers in chronological order by year. It was also important that I took these papers with me on my D.C. trip. I worked out a trip itinerary and called MILPERCEN Officer Records Section to alert them of my arrival date and to request an appointment to review my records. Your personnel officer has the Autovon number of this Section. The making of a prior MILPERCEN appointment is mandatory.

The manner in which I approached my records is also noteworthy. I went with the notion that I was going to find all the pieces, that I was going to refuse to be overwhelmed, and that I was going to read critically and understand every form recorded and pertinent to me. Abbreviations which previously presumed to be correct were going to be put to the test of authenticity, validity, and consistency.

It is worth your while to realize that the U.S. Army Military Personnel Center maintains two separate personnel files on commissioned officer's military service. The first, the Official Military Personnel File (OMPF), is maintained by MILPERCEN's Personnel Actions and Records Directorate (PARD) in Alexandria, Virginia. This record is used by DA selection boards to select officers for promotion, military and civil schooling, RA appointments, retention, elimination, and recall to Active Duty.

The second file is the Career Branch Individual File (CBIF). This file is maintained within the Officer Personnel Directorate (OPD) by the Medical Service Corps Branch at the Forrestal Building in Washington, D.C. This file is used by career branch managers in the daily functions of officer assignments, professional development and other personnel actions.

Effective August 1974 the following documents were to be filed in the Branch file: officer's preference statement, photographs, civilian school reports, college transcripts, most recent individual flight records, ORB (Officers Record Brief), OERs and Academic Reports with related official correspondence, and records of punishment under Article 15, UCMJ, and Courts Martial and similar documents filed under provisions of AR 600-37 (unfavorable information).

Original copies of letters of appreciation and commendation and copies of citations for awards and decorations are included in the OMPF along with some of the above listed items like OERs, etc. The OMPF provides "an historical record" of our service. I'll say more about this file later. The CBIF contains only those documents needed by Branch personnel management officers.

On my trip I determined that the first place to go was the MSC Personnel Management Branch to review my CBIF and what has been called the Officer Record Brief (ORB). The ORB is one of the most important documents in your file. It is used by managers, specialty area monitors, selection boards and gaining commanders. Selection boards use the ORB extensively during the selection process.

Officers are given the opportunity to confirm as correct the information on their ORB annually during their birth month. However, an officer may request a copy of his ORB for auditing purposes any time. You accomplish this by requesting of your personnel officer that a copy be prepared for review. Your personnel officer can assist you in making any corrections to the data. The ORB is a simple, concise summary of an officer's personal and military history and can have a determining affect on his career progression.

The ORB is not to be confused with the Personnel Qualification Record, Part I (DA Form 2), the green sheet furnished to you at your home station on a quarterly basis. The ORB and the Personnel Qualification Record are two separate documents. This reminds me, most of us have entered on our DA Form 2 the fact that our civilian education level is "Professional (Code:V)." This does not, I feel, discriminate us among other MSC officers; or, as a matter of fact, it does not discriminate us from mail-order ministers either. I have changed this entry on my DA Form 2 to read: "Doctorate (Code:U)" to increase discrimination value for board purposes.

It is an error on our part to take for granted that forms and reports on us are properly submitted and exist where they are supposed to for the greatest impact.

After your Branch Record review, you are ready to proceed to Alexandria, VA to review your OMPF at MILPERCEN. Military commuter buses provide easy transportation from the Forrestal Building to MILPERCEN. Remember you have to make an appointment for this review and there is I think a one or two day advance notice required.

At MILPERCEN you are able to sit down and go through your OMPF very much like you did at Branch. At MILPERCEN however you are given specific instructions and technicians are available to assist and answer questions.

Recent selection boards have commented that many officers are not keeping their official files up to date. A few suggestions for starters are:

- *Make sure you have a current photo (LTC, MAJ, CPT, LTs must not have in their file a photo older than four years old).

- *Follow up your last Officer Record Brief audit. Insure your personal data has been corrected.

- *Systematically review contents. You will find all OERs and Academic Reports, disciplinary actions, and commendations/awards on the right side of the folder. Letters of Appreciation, etc. are on the left side.

- *Make sure all reports are included. You will notice that letters of degree attainment or completion and transcripts are not on the coveted right side.

- *Compare the OMPF contents with what you consider to be important from your own transported personal copy file. Technicians are on hand to assist in this determination. Xerox capability is also available.

- *Be sure your last OER is in the file.

- *Are you due an OER before a board is to convene?

- *Purge your file of unnecessary documentation.

- *Insure everything in your file is yours. Somebody's Silver Star will not help you, neither will somebody's Article 15.

- *Are you missing an OER? Your entire military career must be reflected without gaps in ratings.

- *Your transcript may not cite degree attainment.

- *Your SSI (formerly MOS) may not have been changed correctly or may still reflect that of a student officer or master's level.

- *For most of us, who were on Active Duty while in school, there should be a properly submitted Academic Report on the right side. It is not unlikely that your academic community inadvertently may have submitted some potentially hazardous and derogatory statement on this report. Or, someone like a Records Clerk may have completed it without rendering any evaluative statement whatsoever.

*A single mistyped number in reference to your Date of Rank or Promotion could be disastrous.

The question may come up, particularly if you are reviewing your files after being "passed over," whether to insert missing documentation. There is no official policy on this to my knowledge, but remember what is in fact missing may be the substantive evidence needed to successfully initiate appeal action on a report that may have played a part in your non-selection. If this is the case, take special note of what is missing and make it a part of your appeal documentation.

If you have not yet been considered for promotion, and there is information missing that should be there, ask the records clerk to properly insert it. (Don't let you Pd scale get the best of you by withholding information! The work in submitting an appeal is too exhausting.)

I want to make another comment related to appeal procedure. Remember, appeal action paperwork is filed in the coveted right side of your OMPF. If you are appealing, it may be worthwhile, depending on the nature of your appeal, to exhibit a copy of your diploma, transcripts, as well as third party statements which may be Letters of Appreciation or letters from Psychology Department Chairman, etc. Otherwise, these remain on the left side of the OMPF.

SUPPLEMENTAL PROCEDURES

Back at the home station and hopefully before any appeal action is necessary, there are additional items of which you should be aware.

A major breakthrough in AMEDD personnel management took place in January 1975 to help fill the gap of information of AMEDD officers. Your attention is directed to C 1, AR 640-2-1, Chapter 8 referencing the AMEDD Professional Qualifications Record. This record provides career managers at HQDA with certain information not available in any other form at that level. It allows for recording membership and degree of leadership in local and national professional organizations, acceptance of hospital or other teaching appointments, receipt of administrative appointments, and professional awards, and accomplishments of that continuous professional education not recorded on the ORB. It is also used to record publication of books and technical papers. The preparation and submission of the proper forms for this is the responsibility of officer concerned. Ask your AMEDD personnel officer for a copy of this Chapter of AR 640-2-1 for review and copies of DA Form 4319-R and DA Form 4319-1-R.

Another item of importance is your Proficiency Designation Code. Psychology officers are referred to C 34, AR 611-101, Section I. 2, Classification of Army Medical Department Officers. This is the D, C, B, or A that you see after the SSI code. Basically and generally the criteria for obtaining a "D" is the attainment of PhD plus one year experience; a "C" = PhD plus four years experience; and a "B" = PhD plus eight years experience. Certification in a specialty by a recognized national professional board also has an impact on this code. Check it out and make sure it is up to date.

One final item regarding records content. Many officers, according to MILPERCEN, are unaware that there are provisions in ARs to allow officers in a primary zone of consideration for promotion to send letters to selection boards. Portions of AR 624-100 (Promotion of Officers), which was developed from Title 10 of the US Code, explains in detail what kind of communications can and cannot be seen by a board. Generally, it emphasizes that letters which cannot be included in an officer's official file, will not go before the board. (It states that letters of appeal regarding officers evaluation reports will not go before the board. However, your appeal paperwork does get in by the provisions of AR 623-105 referencing Appeals. Letters to a selection board is not the time or manner to submit an OER Appeal.)

An example of the type of letters that should be sent to a board would be the case of a Captain in a primary zone for promotion to Major. While reviewing his official DA file, the officer noted that his OERs, letters of commendation and award citations were in order, but there was nothing in the file to reflect that he had recently enrolled in an additional and supplemental masters degree program.

In such a situation MILPERCEN suggests that the officer read AR 624-100 and prepare a letter to the president of the board (MILPERCEN, ATTN: DAPC-MSS-B, 200 Stovall Street, Alexandria, VA 22332) which explains that he is enrolled in graduate school. When possible, a transcript of grades should be included.

In another situation an officer might review his official file and discover that a period of TDY he considers important in the development of his career, is not described in an OER. It would be appropriate, according to MILPERCEN, for the officer to send a letter to the board president which contains information about the important period of TDY.

Before writing a letter to a promotion board, MILPERCEN suggests that officers:

*Review, or appoint someone to review, the official file.

*Insure that what they plan to write is significant to their career.

*Make the letter as concise as possible, preferably no longer than one page in length. If the letter is longer, the officer should include enclosures and summarize them in the basic letter.

*Do not include any comments that are critical of, or reflect on character, conduct or motives of another officer.

Hopefully, this anecdotal presentation of my experiences and findings provides timely hints for AMEDD Psychologists in the management of their careers in the military. Unless we are informed about the ways and means of constituting and safeguarding personnel record keeping, we not only will continue to be naive but will also take our lumps and fall victims of chance error and selection bias.

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TACTICAL ADMINISTRATION FOR AMEDD PSYCHOLOGISTS
IN MENTAL HEALTH SETTINGS

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INTRODUCTION

It is amazing that over the years Army psychologists have traditionally banded together to spend conference weeks together, yet no documentary record has ever been made to reflect the wealth of constructive ideas that emanate from informal subgroups discussing daily operational administration matters. The Current Trends Conference for AMEDD Psychologists in 1976, being planned around a "How-To-Do" theme, recognized the need to address administrative issues - as they pertained to psychologists managing their personal affairs within the larger system of US Army personnel actions.

This paper focuses on the daily administrative arena as it may be found at the "Home base" setting of psychologists. It addresses a series of strategies and tactics that have influenced the author's planning and behavior in daily administrative, logistic, and personnel matters. The comments presented are not meant to be either inclusive or always pertinent to every setting. They are simply a listing of ideas (and biases) gathered from meetings with AMEDD Psychologists and formulated during the course of the author's tenure as Chief of a Community Mental Health Activity and as Regional Psychology Consultant.

RUMOR RELIC

This writer remembers making a vow to himself some years ago that, if he had to spend more time in administration than clinical practice, he would "call it quits" with the Army. At that time as-

piring graduate students were reading literature that pitted the practitioner role against the administrator role. Graduate school mentors were overheard complaining about their administrative requirements. Directors of civilian Community Mental Health Centers were wishing for the day they could toss aside paperwork and "get down to" a full day in the practice of their parent disciplines.

The whole business of "administration" had a number of strikes against it much before the author had obtained the chance to critically evaluate the matter for himself in perspective within an Army Medical Department setting.

In the course of coordinating liaison with civilian mental health resources and talking with community mental health directors, the discovery was made that non-military administrators are "saddled" with more major administrative struggles than are their counterparts with the Army. They expend a great deal of time organizing political lobby efforts to insure continuance of vital funds to keep their "shops" going. Most of their grant writing is to acquire dollars for operational necessities. They also exhaust themselves recruiting personnel, resolving complaints, and unwrangling varying legalities.

There are a number of similarities between the functional responsibilities of the civilian and military mental health directors. But the point to be made is that administrators (Chiefs) of the Army Community Mental Health Activities have it relatively easy. Simply being "freed up" from having to worry about operational funds and about recruiting personnel allows the military mental health director to concentrate more fully on the missions of providing care and consultation.

The practitioner/administrator roles are not ipso facto as antagonistic in the Army as we have been led to believe. Benefits also accrue with being good at administration. One of the advantages of obtaining the position of a director in clinical practice is that being "boss" enables one to be selective both in the type of clientele seen and in the activities undertaken. By virtue of his staff relationships, a "Chief" is called professionally into seemingly more complex cases and situations of influence than normally would a "pure" practitioner. A "director" of mental health in the Army is not only seen as an administrator but also as a specialist in his health service, a "public official," and a community leader.

As administrator, the psychologist finds great challenges. In this capacity he must develop the ability for getting things done through others. He must develop the ability to instill in others the desire to get things done without order or strict and close supervision.

He must develop the ability for making things happen - not now and then - but constantly. He must be a planner, an organizer, a staffer, a builder, and a leader and he should project to all of those under him an image of confidence.

TACTICAL IDEAS

For psychologists to rid themselves of stagefright and begin to feel a sense of accomplishment and ease in the administrative theater he must acquire skills in managing people, materials, and workload. The following items and ideas are presented to stimulate our mutual brainstorming of successful operational strategies.

Personnel Matters

With tours of service somewhat stabilized psychologists find themselves receiving a number of efficiency reports while being assigned to the same position. It is important in this case that your OERs reflect increases of responsibility and authority over time. To accomplish this ask for more responsibilities and advise your Rater/Indorser of these progressions of assumed responsibility.

Letters of Appreciation/Commendation are nifty devices both for rewarding quality performance and for bringing attention to your activities. Most of us are used to giving our subordinates these letters. But, have you ever influenced a non-medical commander to write a letter for a subordinate of yours for a job done especially well? (Have these letters routed "Thru" MEDDAC/MEDCEN Commander.)

It is often helpful to one's own cause to receive letters for having done something super for others (i.e., consulting, teaching, providing workshops). Forget about your modesty. If you accomplished something of value for a commander, ask for a letter of appreciation. Commanders are often appreciative of your asking and they figure that you are knowledgeable about the "real" system. Also, if a commander is especially receptive to your efforts, you may think about initiating a letter to him/her. (MEDDAC/MEDCEN Commanders are often delighted to recognize others in the name of increasing military community relations.)

Need another professional to help, but the latest manpower survey did not recognize the need? Check with the Civilian Personnel Office regarding your installation's policy and status relevant to the "Hire the Handicapped Program." There may be a physically handicapped colleague waiting for someone to express an interest. Personnel hired under this program do not get logged against your TDA. Here again,

recognition is in the offering for supporting a command encouraged program.

Manpower surveys can be a time consuming and mind boggling experience. Fort Benjamin Harrison has developed a programmed text in manpower matters and Schedule - X preparation. Ask your Personnel Officer (or Finance Officer) if he can help you obtain this material. By the way, if you did not know already, you do not have to wait for the next manpower survey team visit to get reviewed for increases or changes in your people power. Find out about submitting an "Interim Schedule-X" when the need can be justified.

Behavioral Science Specialists are routinely trained and supervised on how to get a job done. The emotional, mental, and physical well-being of these individuals need to be monitored carefully. They experience occupational hazards also and often need our personal and professional support.

Promotions and duty reassignments of senior officers should be important to you. Get to know the recently arrived and new senior officers within your command and within other local commands. These officers are "going places" and are going to be tasked new duties. Perhaps you may one day be seen as a resource for them in the accomplishment of their functions.

Schedule yourself time for "strategically" planned self initiated social visits to the "shops" of the new senior officers. Listen and listen and listen to their concerns and invite them to your place of business. Know your military etiquette, brush up your military "bearing," and always render military courtesies regardless of the circumstances. Do not overstay your welcome. There will be plenty of time to get to unfinished business.

MSC Administrative types (Executive Officer, Adjutant, Force Development Officer, Comptroller, Personnel Officer, Medical Company Commander, Command Sergeant Major, Company First Sergeant, and others) are all valuable assets to the psychologist in addition to being team members. They are professionals and they are skilled at what they do. We must never let ourselves presuppose that we are any "more professional" than our administrative cohorts. To do so would be an error in judgment and might have catastrophic repercussions.

Command Sergeant Majors are key people within any command. It is worthwhile to make it a point, wherever you go, to stop in and chat with the main persons in the NCO chain of authority. They know the human needs in a command better than anyone. Relationships with these NCO leaders are delightful and informative. These superior professionals

are action men and they are where the action is. They know the heart rhythm of everything going on. If you have not met the primary Command Sergeant Majors in some meaningful form or fashion, you are missing a chance to develop a valuable resource.

Good entry topics with Command Sergeant Majors include: the Field Manual or Training Circular on "Counseling" put together by the CSM Academy, local efforts to enhance "NCO Professionalism," or recent guidance or priorities given by the CSM of the Army (currently CSM Bambridge).

Logistical Issues

Looking for workspace? Try to keep abreast of the building that is going on around you, especially near troop areas. There is always a constant reshuffling of offices in these and other plans. When senior officers comment on renovations and new structures, it is often helpful to become interested in their plans to show interest in their problems. In expressing concern you have a chance to "scope out" ideas for possible office space for future employment of satellite clinics or behavioral science service depots.

If you find that your rooms are being taken away from your Service and being reallocated to some other function - or when one day someone else is sitting in one of your offices with the future notion of squatting permanently - it should occur to you that people with influence evidently do not see you needing the work space. You have to ask yourself whether you are doing important things. If you are maybe the problem is that you have not planned sufficient and necessary exposure. Most of the time when this happens it is symptomatic of you not having let people know your work.

Parenthetically, none of your supervisors would ever like to welcome an outside senior officer to your depleted office space. If you have senior officer guests to your office for consultation, you will find that your work environment magically becomes more than adequate.

A few comments about materials and equipment should be made. It is worthwhile to make an issue of the necessity for maintaining security of your materials and insisting that there be surveillance and close supervision of others within your command and on Post using psychological instruments.

Do you find yourself looking for easy access to a xerox machine to copy important, "need-now" items. Locate the Administrative Service

Section of your Post Headquarters. The queue lines at this service section are often short and the quality of reproduction is usually the best.

If you happen to be assigned to a location away from a library of professional value, you should be aware of your medical library's "inter-library loan" capability. In many settings a requested article or book can be obtained by placing a simple phone call to your medical librarian.

If you need computer assistance for research or analysis of operational statistics, it may be worth a trip to talk to your local Management Information System Office (MISO) regarding the "Stat Series", possibly available from their terminals.

In terms of transportation needs for official business, it may be one day convenient for you to have in your possession a military driver's license. Your NCO can advise you on how to obtain this license.

If you find that you are putting mileage on your private vehicle to make consultation (or other official business) trips around Post, other than from residence to place of work, it may be worth knowing that mileage for these activities can be calculated into an "adjustment" (not a "deduction") to your taxable income. Check with your local JAG tax specialist regarding this item being an "Unreimbursed Business Expense."

Additional Comments

It is advantageous to make an earnest effort complying with Suspense Dates. In fact, try to be the first to respond in staff matters, but respond with quality. Supervisors know the extent of your staff work by the product submitted. It is counterproductive to have to be reminded of an action beyond suspense deadlines. Likewise, superiors do not have to be reminded that their staff requests interrupt your priority activities. Superiors remember the consistent first responder and a goal of this kind pays dividends.

Be informed on regulations that apply to your business and operation. Not just the ARs. By the way, most commands or installations have or should have a local regulation coded in the 40-5 numbered sequence pertinent to Mental Hygiene Consultation Services. Most likely it is out of date. In most instances it needs revision. You might want to think about taking this task on yourself...to insert a provision regarding some policy whereby a "Psychology Officer will be advised regarding, and is responsible for supervising and controlling, the use of test materials that obtain information of a psychological nature."

It is often profitable to find diplomatic ways of reminding supervisors of their supervisory skills and knowledge by asking for guidance. Supervisors and commanders give guidance and usually are prepared to elaborate on proposed plans of action. In these elaborations you get to know him. His problems get fleshed out and become specific. Asking for guidance is not synonymous with "playing dumb." Often times we miss the mark because we are not clear on what is being asked of us.

Remain alert to ways of cutting costs of your operations. As an example, several forms may be collapsible into one. Isolate and coordinate the deletion of duplicating services. Be informed about budget provisions for your Service or Section and look for consultant money for training in an effort to reduce referral costs to civilian agencies.

Within your own area of responsibility, delegate responsibility wisely and do not permit subordinates to "sluff off." Reward performance and let subordinates know how the mundane tasks fit into the bigger operational picture.

There are a number of committees in every MEDDAC/MEDCEN. Health Service Command Pamphlet 40-1, Hospital Committees, lists all routinely authorized committees at these settings. Get yourself on at least one and plan to be an active member.

The Human Use Committee (or the Clinical Investigations Committee in some settings) is one of special interest to psychologists. It pertains to the process of reviewing studies and research using human subjects. Any one doing research where humans are used should be advised that there is a review procedure now implemented Army-wide. Pick up AR 70-25 and AR 40-38. Ask your Adjutant to obtain for your personal use a copy of the Army Medical Research and Development Command publication AMRDC 70-25, entitled: Use of Human Subjects - Research, Development, Test and Evaluation. It contains sample consent forms and volunteer agreements.

Another committee of interest is the Credentials Committee at MEDDACs/MEDCENs. This committee is made up mostly of Medical Corps officers; however, it is often worthwhile to make contact with the Psychiatry representative as well as the Executive Officer and the Chief (or Chairman) of this committee. By regulation you should be on any such committee considering applications for credentials to practice clearly psychological methods (excepting that, of course, considering your own application). This is particularly important when the committee is considering civilian employees with Psychology GS series numbers (i.e., Psychology Technician, Counseling Psychologists, Clinical Psychologists).

The activities of the Professional Development Committee is another interesting possibility. Your attention is directed to Training Circular 8-4 (May 1976) entitled, Interpersonal Relations in the Care and Management of Patients. This publication provides content "right up our alley."

If you are at or will be going to an internship site, there are many benefits to permitting interns and staff to occasionally sidekick with the Chief of the Service when he goes about his administrative business. It would be valuable to share how the administrative/political arena is managed by those who are responsible for these affairs. If you are an intern, ask to accompany your Chief to see how it's done. Rarely do interns get a chance to see what is going on administratively, yet shortly their survival will depend on just this kind of competency. Learning administrative finesse is one of the main pluses offered to AMEDD psychologists. Civilian occupational settings simply do not provide psychologists an equivalent breadth of extended opportunities to run their own Services.

A variety of topical ideas have been presented to this point. Hopefully, some of the tactics provided proves to be of practical use to other AMEDD psychologists. It is the author's belief that we need to begin to accumulate, elaborate, and share among ourselves those successful administrative and operational strategies we find to be mutually profitable.

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COMPUTERIZED PROGRAMMING: AN AID IN MAKING TESTS A
VEHICLE FOR THE AMELIORATION OF LEARNING PROBLEMS

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This paper represents an attempt at describing an innovative approach to writing the prescriptions required of those psychologists employed by or acting as consultants to school districts. Unlike the psychologist practicing in a clinical setting, who is able to select and schedule his clients, the school or educational psychologist is pressed more and more into servitude as a psychometrist by the large case loads and the evaluation requirements particularly those imposed by PL 94-142.

THE PROBLEM. It's not news to anyone that psychologists have received no small amount of criticism for their inability or unwillingness to abandon the security and comfort of their jargon and, in language that can be understood by anyone, explain what is wrong with a student and the methods to be followed that will allow a non-learner to become a learner.

There seems to be an untouchable area between the global score or general categories identified by the psychologist and the curricular scope and sequence of a teacher's pet program. This area seems to exist as a result of the lack of time, training, or self-confidence, or possibly even the desire he has to survive the redundancy of the psychometric component of an assignment.

THE METHOD. It was for the latter reason that I first considered the IBM printer and finally the computer as a source of help in writing the long and detailed recommendations. It was felt that if a storage unit were used, it would allow the psychologist to quickly individualize the prescriptive statements to any degree that might be appropriate.

It seems to be a well founded notion that learning the basic skills (reading, writing, arithmetic, etc.) does not depend upon a global MA but rather upon various abilities and experiences children acquire. The reason a particular child does not read lies within the child himself and not so much with the methods used, although certain methods are better for certain children. The school psychologist is faced with the problem of finding that method.

Step 1: The Selection of a Cluster Model. Many cluster models are being used in the attempt to solve the identified learning problems (Mary Meeker, for example, has tied hers to the Structure of Intellect developed by Guilford, and using WISC, SIT, or Binet results places problems and remediation procedures in about 96 cubes, and no doubt you have seen many more). My choice was one coming from West Texas State University (presented at a CEC convention some years ago and which appears in at least one commonly used Learning Disability Text, Waugh, 1971).

The cluster model selected was obviously designed as an aid to WISC interpretations. It de-emphasizes the individual's Mean Score and how other scores distribute themselves or cluster around that mean. As far as I know, there has not been an attempt to identify the distance from the mean that would be considered significant. I've seen 1 point used.

Figure 2 shows the patterning of a high verbal, low performance test. The student's performance I.Q. is depressed some 20+ points below the verbal I.Q. This person is usually an auditory learner. When tested with the Wepman, he generally has an auditory discrimination problem.

Figure 3 is an example of the patterning of a high performance - low verbal student. This student is generally a visual learner.

Step 2: Adapting Other Tests to the Selected Model. In our original screening test battery, we included such tests as the ITPA, Frostig, Bender, SDCT, SIT, and selected achievement tests. It was observed that using the CLUSTER MODEL previously discussed, following the administration of the WISC, little was added to or altered as far as the remediation program was concerned through the use of these additional diagnostic tests. It was further observed that the "cluster model" approach cut evaluation time to about one-third. It should be stated at this time that the other tests were held in reserve for follow-up evaluations that might prove helpful in clarifying a diagnosis required by law or at some teacher's request, if the selected program proved to be ineffective.

I presume that what has been done must be considered unorthodox and somewhat suspect, at the very least, with the absence of long and complicated statistical procedures, experimental and control groups, etc. But I suppose the procedure may be no more subject to question than some of the tests presently being used by teachers and psychologists such as the ITPA in view of the studies appearing in many journals, including the School Psychology Journal that suggests it is a test of intelligence rather than a psycholinguistic test as is claimed;

or the Frostig which claims to have identified five testable skills and remediation techniques or programs for each skill. The research now reduces the categories to between 1 and 3.

The evolving model became one that consisted of the following nine major categories and subtopics:

1. Conceptual Ability
2. Sequencing Ability
 - Visual Sequential Memory
 - Auditory Sequential Memory
3. Perceptual Organization
 - Eye-hand Coordination
 - Figure Ground
 - Form Constancy
 - Position in Space
 - Spatial Relations
4. Verbal Comprehension
 - Auditory Reception
 - Auditory Association
5. Verbal Expression
 - Inadequate Vocabulary
 - Inability to express ideas spontaneously
6. Attention Span (Concentration)
7. Academic Progress
 - Visual Learner
 - Auditory Learner
 - Low Potential
8. Physical Aspects
9. Behavioral Evaluation

You will recognize the WISC related clusters have been expanded to include subtests from such tests as the ITPA - Frostig, etc. The intent being that the language or jargon specific to each test would be somewhat controlled. All testing could then be reported on the basis of this model.

Step 3: Adapting Remediation Statements to the Model. Under the subtopics, remediation statements (cookbook fashion) were made. They

ranged from statements used were selected from psychometric and psychological examinations given over a period of two or three years prior to the program's implementation.

Step 4: Getting the Program in the Computer. In the beginning a psychologist wrote on a specially prepared form the numbered statements that seemed appropriate and a keypunch operator then punched the necessary cards. The program was run in triplicate so there was a copy for the central file, a copy for the student's "cum" folder in the school, and a copy for the student's parents.

PROBLEMS. Some of the major problems we have encountered are:

1. TURNAROUND TIME

The complete cycle had a turn over time of about three or four days at first, but of late the keypunch operator has become a bottleneck. It appears, however, that with the recent purchase of an OpScan that this problem will be eliminated since the psychologist will be able to go directly to the computer. It seems certain that our turnaround time will be shortened.

2. NO COMPUTER

Certainly there are many who do not have access to a computer who need some relief from the redundancy of prescription writing. It has recently occurred to me that a statement file could be constructed in such a way as to accomplish the same thing with copying being done by a xerox machine.

3. SUMMARY SHEET

To leave teacher with instant information about student a summary sheet was left with the teacher that keyed strengths and weaknesses to the "cookbook."

4. COOKBOOK STATEMENTS

Problem getting a list that can be used with an element of agreement.

REFERENCES

Waugh, K. W. and Bush, W. J. Diagnosing Learning Disorders, Charles E. Merrill, Columbus, 1971, p. 52.

THE CONCEPTUAL MODEL

FIGURE 1

		SCALED SCORES		MEAN
SPATIAL	PICTURE COMPLETION	_____	÷ 3	_____
	BLOCK DESIGN	_____		
	OBJECT ASSEMBLY	_____		
CONCEPTUAL	COMPREHENSION	_____	÷ 3	_____
	SIMILARITIES	_____		
	VOCABULARY	_____		
SEQUENCING	CODING	_____	÷ 3	_____
	DIGIT SPAN	_____		
	PICTURE ARRANGEMENT	_____		
PERCEPTUAL ORGANIZATION	BLOCK DESIGN	_____	÷ 2	_____
	OBJECT ASSEMBLY	_____		
VERBAL COMPREHENSION	INFORMATION	_____	÷ 4	_____
	COMPREHENSION	_____		
	SIMILARITIES	_____		
	VOCABULARY	_____		

FIGURE 1 (CONT)

		SCALED SCORES		MEAN
FREEDOM FROM DISTRACTIBILITY	ARITHMETIC	_____	÷ 2	_____
	DIGIT SPAN	_____		
*ACADEMIC PROGRESS	INFORMATION	_____	÷ 3	_____
	ARITHMETIC	_____		
	VOCABULARY	_____		
	SUM	_____	÷ 7=	CLUSTER MEAN

* My addition to the 6 listed by Waugh & Bush (D.P. Adamson)

HIGH VERBAL LOW PERFORMANCE

FIGURE 2

		SCALED SCORES		MEAN
SPATIAL	PICTURE COMPLETION	<u>9</u>		
	BLOCK DESIGN	<u>11</u>	÷ 3	<u>9 2/3</u>
	OBJECT ASSEMBLY	<u>9</u>		
CONCEPTUAL	COMPREHENSION	<u>15</u>		
	SIMILARITIES	<u>15</u>	÷ 3	<u>15 2/3</u>
	VOCABULARY	<u>17</u>		
SEQUENCING	CODING	<u>7</u>		
	DIGIT SPAN	<u>13</u>	÷ 3	<u>9</u>
	PICTURE ARRANGEMENT	<u>12</u>		
PERCEPTUAL ORGANIZATION	BLOCK DESIGN	<u>11</u>		
	OBJECT ASSEMBLY	<u>9</u>	÷ 2	<u>10</u>
VERBAL	INFORMATION	<u>11</u>		
	COMPREHENSION	<u>15</u>	÷ 4	<u>14 1/2</u>
COMPREHENSION	SIMILARITIES	<u>15</u>		
	VOCABULARY	<u>17</u>		

FIGURE 2 (CONT)

		SCALED SCORES		MEAN
FREEDOM FROM DISTRACTIBILITY	ARITHMETIC	<u>12</u>		
	DIGIT SPAN	<u>13</u>	$\div 2$	<u>12 1/2</u>
ACADEMIC PROGRESS	INFORMATION	<u>11</u>		
	ARITHMETIC	<u>12</u>	$\div 3$	<u>13 1/3</u>
	VOCABULARY	<u>17</u>		
	SUM	<u> </u>	$\div 7$	<u>12</u> CLUSTER MEAN

LOW VERBAL HIGH PERFORMANCE

Figure 3

		SCALED SCORES		MEAN
SPATIAL	PICTURE COMPLETION	<u>11</u>		
	BLOCK DESIGN	<u>12</u>	÷ 3	<u>11 2/3</u>
	OBJECT ASSEMBLY	<u>12</u>		
CONCEPTUAL	COMPREHENSION	<u>12</u>		
	SIMILARITIES	<u>6</u>	÷ 3	<u>9</u>
	VOCABULARY	<u>8</u>		
SEQUENCING	CODING	<u>13</u>		
	DIGIT SPAN	<u>7</u>	÷ 3	<u>9 2/3</u>
	PICTURE ARRANGEMENT	<u>9</u>		
PERCEPTUAL ORGANIZATION	BLOCK DESIGN	<u>12</u>		
	OBJECT ASSEMBLY	<u>12</u>	÷ 2	<u>12</u>
VERBAL	INFORMATION	<u>6</u>		
	COMPREHENSION	<u>6</u>	÷ 4	<u>8</u>
COMPREHENSION	SIMILARITIES	<u>12</u>		
	VOCABULARY	<u>8</u>		

FIGURE 3 (CONT)

		SCALED SCORES		MEAN
FREEDOM FROM DISTRACTIBILITY	ARITHMETIC	<u>5</u>		
	DIGIT SPAN	<u>7</u>	$\div 2$	<u>6</u>
ACADEMIC PROGRESS	INFORMATION	<u>6</u>		
	ARITHMETIC	<u>5</u>	$\div 3$	<u>6 2/3</u>
	VOCABULARY	<u>8</u>		
	SUM	<u> </u>	$\div 7$	<u>9</u> CLUSTER MEAN

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SCHOOL CONSULTATION AND THE TRAINING OF PUBLIC SCHOOL
TEACHERS IN THE USE OF A POSITIVE, SUCCESS-ORIENTED
BEHAVIORAL APPROACH

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CONTENTS

- I. Can public school teachers be trained to use the behavioral approach in the class.....
- II. What are the obstacles?.....
- III. Who can train teachers?.....
- IV. How could they, and what could they be taught?.....
- V. When can teachers be trained?.....
- VI. How long and how often should they be trained?.....
- VII. Who else in public schools could be trained in the behavioral approach and why?.....

I.

Several questions need to be examined before the major focii of this paper can be dealt with. First, there is the question of whether some teachers can be trained to use the behavioral approach in classrooms. Howard A. Rollins, Boyd R. McCandless, Marion Thompson, and William R. Brasell (1974) found that most, if not all, inner city teachers can learn to use a positive contingency management procedure to insure behavior control, accelerated academic achievement, and probably as a function of the latter, substantial tested I.Q. gain. Sixteen teachers participated in the project, all but one, according

to the authors' subjective evaluation, were effective at increasing their delivery of reinforcement. The point of having teachers apply operant principles in the classroom is important. Rollins et al cite D. M. Baer (1971) as stating that a number of researchers have clearly shown that these principals can be applied. But, then Rollins et al indicate that previous investigators have not answered the question concerning the proportion of teachers that can be trained and the number of children that can benefit from the program. They suggest that their study provides some preliminary answers to the query around teacher training.

Another question is, why do teachers need additional training? B. F. Skinner (1965) states that "The most widely publicized efforts to improve education show an extraordinary neglect of method. Learning and teaching are not analyzed; and almost no effort is made to improve teaching as such....what has been taught as pedagogy has not been a true technology of teaching..... A really effective educational system cannot be set up until we understand the processes of learning and teaching. Human behavior is far too complex to be left to casual experience, or even to organized experience in the restricted environment of the classroom. Teachers need help. In particular they need the kind of help offered by a scientific analysis of behavior." (Skinner, p. 80).

In describing what is technically "missing" from the classroom, B. F. Skinner (1965, p. 99) cites "positive reinforcement". He further reports that every day in the life of a student, he looks, listens, and remembers because of certain consequences. The student learns to look and listen in those special ways that encourage remembering because he is reinforced for recalling what he has seen and heard. Consequences of this sort do not exist when a teacher simply shows a student something or tells them something. Teaching, for B. F. Skinner (1965, p. 102), is defined as "an arrangement of contingencies of reinforcement under which behavior, changes."

Another author states that there is a need for teacher education focused primarily on teacher behavior. He suggests this focus when trying to determine the type of learning environment present in classrooms. "Teaching behavior is the most potent, single, controllable factor that can alter learning opportunities in the classroom" (Ned A. Flanders, 1970). Flanders also suggests that most teachers would like to improve their effectiveness and that improvement cannot be easily accomplished by a teacher alone in the classroom. Thus, there is a need for teacher education. K. Daniel O'Leary and Susan G. O'Leary (1972) state that educators and psychologists have been remiss in providing the teacher with effective procedures for dealing with inappropriate social behavior and for developing useful and productive skills. They further state that what is lacking is a positive solution to the problems facing schools and teachers. These authors, along with Skinner

(1969), agree that teachers need a new educational method. A method which will assist the teacher in helping him or herself to solve some of the problems which are experienced daily.

Glasser (1969) suggests that teachers' experience in education be broadened. He states, "If they are subjected throughout their school and college years to fact memory, graded education, requiring little thinking and having little relevance, they are willy-nilly trained to use the same methods with their students. Hopefully....teachers will experience a better education from kindergarten through graduate school" (Glasser, 1969, p. 110).

Now that there is an established need for additional teacher training, it is necessary to explain why the behavioral approach has been chosen. What does it offer the teacher?

O'Leary and O'Leary (1971) cite Skinner as stating that...."we are on the verge of a new educational method - a new pedagogy - in which the teacher will emerge as a skilled behavioral engineer....(p. XV). These authors have shown that praise and positive forms of teacher attention have a high correlation with student academic and social performance. "Teacher attention in the form of a pat on the back, a hug, a smile or word of encouragement can be one of a teacher's most valuable tools. By systematically using such teacher attention, the frequencies of a great variety of problem behaviors in preschool and elementary schools have been successfully reduced" (O'Leary and O'Leary, 1972). When the O'Learys discuss teacher training they see behavior modification as an approach which represents a concrete attempt to make explicit those procedures by which a teacher can change behavior. The teacher can become a behavior analyst as he or she learns of the development of behavior and behavior change techniques. The teacher should learn a set of principles for observing and changing behaviors on her own in a systematic manner. After learning a general approach to behavior change a teacher should be able to:

- "1. Easily make the classroom rules clear
2. Give academic work that is commensurate with each child's skills
3. Frequently praise the children for their successes
4. Ignore children when they are involved in minor disruptions
5. Make explicit the consequences of severe disruptions
6. Deal with each child consistently"

(O'Leary and O'Leary, 1972, p. 42).

When engaged in discussions with colleagues about what public school teachers could be taught to enhance their performance in school settings, the question of what other approaches are available to teachers comes up. The response to this inquiry is based upon this author's experience as a public school teacher. When I recall my educational training, which was completed in 1968, at a more than reputable Northeast university, only training in content (academic areas) and test and measurements come to mind. No formal training was offered which dealt with how to go about managing children who might, for whatever reasons, be disruptive and have academic learning problems. I, just as many other teachers, bridged this gap in training by eventually developing my own techniques which were, at times, effective. Some teachers, however, have great difficulty or no success with developing their coping techniques. At present (1976) some universities are attempting to better prepare their education students. Earlier exposure to field experiences in public school settings, developing courses in Educational Psychology, and courses investigating Urban Education are indicators of the efforts to improve the undergraduates' training. These efforts are praiseworthy but still not sufficient enough to prepare teachers to work in all public educational settings, i.e. inner-city, suburban, and rural schools which present students with different degrees of academic and behavioral problems. Therefore, in my estimation, there is still a need for additional training for teachers already in the field and for undergraduate Education majors, and the training of choice is the positive behavioral approach.

At this point an investigation of teachers' goals and the need for training, as seen from their perspective, will be made. In addition to this, the possible obstacles to training will also be explored.

Public school teachers have as one of their goals, to assist students to attain success in academic and social skills. A number of factors may be obstructing the learning process for students, such as inappropriate behaviors, brief attention spans, lack of motivation, no real interest, and possibly a lack of intellectual capacity. Teachers may also have problems in the area of instruction. These might include insufficient self-confidence, inadequate preparation for dealing with students who present various behavioral and learning difficulties and an inability to see themselves as capable "change agents."

Teachers who are already employed in school systems and who have the above problems must rely upon graduate education courses or some form of in-service or outside workshop training. Most of the teachers that I have known generally look forward to "worthwhile" training which will make working in the classroom a more rewarding experience for all concerned. Most teachers, then, do appreciate this type of assistance.

II.

But what are some of the reasons why persons coming into schools who desire to make positive change through the use of the behavioral approach, have difficulty? At the outset, it is important to look at the problems associated with coming into these systems, as an "outsider attempting to make any change. The typical problems noted by Sarason (1971) might include:

1. That the outsider feels he is viewed as some kind of intelligence agent whose aims are other than what is stated. Subsequently, adjectives most frequently applied to school personnel by the puzzled outsider are: insecure, uncooperative, paranoid, and rigid. These terms vary depending on how far beyond the principal's or superintendent's office the outsider gets.

2. The consultant/researcher may not consider the possibility that the school personnel may have already learned that outsiders generally have some criticism to make and that they are realistically put in a position to be defensive.

3. It rarely occurs to the outsider that the response of a school person reflects in some measure that he is in a role that is characterized by duties and responsibilities and is defined by a complicated set of personal and professional relationships with many other people in the setting. The school principal, for example, no less than the outsider, is part of a social-professional structure that places constraints upon him, independent of his personality. The researcher may have a tendency to perceive verbal and non-verbal behaviors of a school person in terms of that individual's personality rather than in terms of a person similar to the principal, who is merely carrying out the prescribed responsibilities of the position.

The outsider, then, may make assumptions about how he/she is perceived and about actions of the school personnel. Another assumption that I have noticed is that some outsiders think that their academic preparation and profession are superior to that of school personnel and communicate this superiority to them in various ways. This approach to educators may be met with hostility and defensiveness. Sarason (1971) further states that we need to try to understand the significance of "existing regularities" in schools. Perhaps Sarason's "regularities" can be interpreted as a homeostasis or equilibrium which is somewhat threatened by the prospect of change. Therefore, as outsiders approach schools they need to recognize and respect the culture of the school and the problems of change. Alternatives (change) to existing school procedures have to be explored in respect to the school as a system with a culture of its own.

The outsider, for the purpose of this paper, is the Clinical Psychologist who may come to public schools in a number of roles, but primarily as a researcher, consultant, or clinician who has a student-client who attends a public school. How does he gain entree? This author recognizes most school systems as organizations with a structural chain of command. The purpose of entry will determine what part of the chain you contact first. A diagram of what may represent the typical chain of command may clarify this point.

Board of Education
Superintendent
Special Services Department
(Child Study Teams)
School Administrators
(principals, vice
principals, and
assistants)
Guidance Department
Teachers
School Staff
Students
Family

This chain represents the major components of the organization. A formal procedure to gain entree as a researcher would be to contact the Superintendent and make the request to do research in his school system. Once the request has been approved, the potential researcher has leave to contact the administrators of the schools in which he hopes to work. After the administrators have accepted the request, the "outsider" may contact the teachers, students, and parents, if necessary, for the purpose of recruiting subjects for the project. It is important to note that teachers have the right (mostly due to unions) to accept or refuse a proposal to do research with them or their students, particularly if this research disrupts the daily procedures in the classroom.

A formal procedure for entering a school system as a consultant could involve the following steps. Initial contacts as a consultant

may depend on who or what group the consultees will be, i.e. administrators, teachers, other staff, school psychologists, social workers and/or learning disability specialists. Perhaps these groups can be combined, but for now let's treat them as separate groups. I should state that ideally all of these groups are involved when one considers a systematic approach to consultation; an effort to reach all persons which students have contact, in order to improve the total environment with a positive, success-oriented approach. Perhaps outside the realm of this system, the family (parents) would be exposed to similar consultation through PTA or community organizations.

First, let us consider the consultant who desires to instruct teachers in the use of the positive, success-oriented behavioral approach. The initial contact would be, with respect to the total organizational structure, with the school superintendent to discuss the scope of the intended program and the overall needs of the systems' teachers in relation to academic, behavioral, and social learning problems. As the superintendent approves the program, the consultant may then want to set up meetings with the various principals to get their approval. Then the consultant should plan to meet with teachers or write a letter to them describing the benefits and essence of the training program. Teachers usually volunteer to get involved if they personally desire to attend the training. Later in this paper, teacher incentives will be discussed.

Consultants who desire to offer training to administrators or special services staff will again go through the superintendent. This time the consultees will be viewed differently. My perception of special services staff and administrators is that they are consultants to their teachers. Therefore, the "outside" consultant would be attempting to further develop the consultation skills of the "inside" consultants in relation to offering additional tools that can be passed on to teachers. Teachers may be considered to be the front line "change or growth agents" for the students. Consultants "inside" and "outside" can be of great assistance if they can offer practical approaches that teachers can implement, using learning principles, creativity, and common sense.

It may already be obvious that I have been describing ways for attaining entree for "outsiders" who wish to offer their skills rather than those who are asked to come in and provide the system with consultation. It is my contention that getting into a system without being asked is more difficult, but may be necessary for a preventive approach and for reasons stated earlier, i.e. most teachers are in need of additional training for coping with academic and behavioral problems.

A formal procedure for gaining entree as a clinician is as follows. The first contact in the chain should be the Special Services Department

(Director). This initial contact will be very beneficial and time saving to the clinician, because this presents an opportunity to meet other professionals who may be in direct contact with the client and possibly the family of the client. Perhaps evaluations of the client have been written and some form of intervention has taken place which the therapist is not aware of. This first contact may also gain the full cooperation of the Special Services Director and the particular Child Study Team(s) operating in the school(s) which the client attends. The Special Services personnel may also have previously established a rapport with the teachers that the clinician must contact. Another possible advantage from this first contact is that it may alleviate the possibility of embarrassing situations, which could be caused by the clinician performing "out-of-role" functions, i.e. performing tasks which fall into the job description of the school psychologist in particular. Some examples might include training/consulting with teachers, treating other children, etc. The probability of working cooperatively with the Child Study Team and teachers is increased by the success of this initial visit. The second contact is with the school administrators, who have the right to know that this outside person will be functioning in the school. The third step will involve the teacher and any other staff person (nurse, guidance counselor) who may be an important other to the client.

These three entree procedures basically involve three main levels of acceptance, i.e. (1) board/superintendent, (2) administrators, and (3) teachers. It is the feeling backed up by the experience of this author, that gaining entree in the manner described will also indicate to the persons in the school system that the outsider is knowledgeable about, and has respect for, the system. An informal procedure would entail going to the School Administrator, a friend or acquaintance, to "feel out" the possibility of doing research, consultation, or clinical work in his school. If the administrator thought the proposal was an acceptable one, he would probably assist the "outsider" in getting an appointment to discuss the proposal with the Superintendent or his representative. At this point, the Superintendent would hopefully give consent. Then the outsider would return to the Administrator to request permission to contact his teachers, students, other necessary staff members and students' parents if necessary. Depending on the nature and scope of the research or consultative work, the Board of Education may get involved in the approval. The Superintendent would, quite possibly, notify the outsider of the necessity to meet with the Board. Contact with the Superintendent and Board may be inevitable when funds for consultation are necessary.

After approval to train teachers, as a part of research or a consultation program, is obtained there may be other obstacles,

especially in relation to the behavioral approach. Grieger (1972) suggests to consultants or instructors who plan to have teachers using a behavioral approach that they must assess first, whether the teacher has the capacity to cooperate and implement a behavioral program. He states that, "In many instances strategies developed by the consultant failed because this assessment was not made. If the teacher is found inadequate or in some way inappropriate, education or modification efforts directed toward him or her must first be undertaken before proceeding to the student." (p. 279). Grieger cites Grieger, Mordock, and Breyer (1970) in discussing teacher attitudes as a relevant area in the consultation process. Grieger (1972) considers teacher attitudes as an important variable in the implementation of a behavior modification program in a public school classroom. He indicates six attitudes which, if held by the teacher, would tend to undercut the behavioral consultation endeavor. These attitudes are briefly, "The child needs fixing; children must not be frustrated; the 'should-ought' syndrome, 'he makes me' syndrome; and children are blameworthy" (Grieger, 1972, p. 279). These attitudes are somewhat speculative and partially based on Grieger's experience. These problematic attitudes are as follows:

POSITIVE IRRATIONAL ATTITUDES

1. The child needs fixing. "This is perhaps the basic attitude that interferes with attempts to solve problems through behavior modification. It is based on the predominant view that behavior is composed of internal needs and traits that singularly predispose an individual to respond in the way he does....Behavior disorders are thus conceived as 'residing' in the child...." (Grieger, 1972, p. 280). Teachers may tend to fix the child without attempting to restructure the situation in which his behavior appears.

2. It is wrong to express negative feelings. "Some teachers hold the opinion that they must not express negative feelings....Some even carry this to extremes by attempting to inhibit expressions of joy, pleasure, and approval" (Grieger, p. 281). Labeling and expressing feelings is important for communication improvement.

3. Children must not be frustrated. "Some teachers believe that a child's frustration must be avoided at all costs....They avoid criticism, reprimand, or punishment, and in total, attempt to make the child's existence utopian" (Grieger, p. 282). Children need to learn when they behave inappropriately.

NEGATIVE IRRATIONAL ATTITUDES

4. The "should-ought" syndrome. Some teachers make the following statements, "Johnny should be able to pass his tests." "Statements of this kind and the attitudinal components behind them imply absolutistic, unsupportable, and unreasonable expectations" (Grieger, p. 283).

5. The "he makes me" syndrome. The logic involved here is that "other people or events cause us to feel the way we do - Johnny makes me mad when he talks out or Sammy makes me happy when he can answer. In any event, the teacher holds the child responsible....both for the child's actions and the teacher's emotions" (Grieger, p. 284).

6. Children are blameworthy for their misdeeds. "The belief underlying this attitude is that children freely choose to do bad things. They are malevolent, manipulating, and often take great delight in making others suffer" (Grieger, p. 285).

Grieger states a number of ways for the consultant to deal with these attitudes. To cite these solutions in detail would unreasonably extend this paper when teacher attitudes are not the major topic of this paper. In general, he suggests that the consultant be aware of the possibility of attitudes in teachers. "...the consultant must be on the lookout continually for ...(other attitudes), even after he has successfully identified and dealt with one or two. In fact, identifying and dealing with this element in a behavior modification consultation endeavor should be a constant, ongoing part of the endeavor from start to finish" (p. 286). Grieger also states that the attitudes one holds "(1) contribute with situational events to the person's behavior, and (2) determine to a large degree the person's feelings (Ellis, 1963). These attitudes are learned and since they are learned, they can be unlearned. Following Ellis' (1963) identification of the attitude, systematic exploration of the basic irrationality of the attitude, and continued practice in substituting a more rational idea for the irrational one serves effectively to unlearn old and learn new and contradictory ones. This is the basis of rational-emotive psychotherapy, but it also seems to work quite well in teacher consultation. For example, the consultant would point out to the teacher that he angrily blames children for their deeds, helps him to see why it is not plausible to blame children for the behaviors, and helps him practice thinking and saying new things to himself that are more plausible" (p. 286).

Grieger's conceptualization of the teacher attitude problem and what to do about it is interesting. In working with teachers I have developed a list of prerequisites which are presented to teachers early in the training sessions. When the list is introduced the teachers are

told that these points are crucial to understand in order to successfully implement a behavioral or any other type program which has as its goal to bring about positive change. The list of prerequisites include:

- "1. Belief that the procedure will work.
2. Genuine desire for change and willingness to do some things to bring about change.
3. Belief and faith in the students in two basic areas:
 - a. That these students can learn,
 - b. That these students can behave appropriately.
4. Belief in self in order to see self as the change agent who is capable of teaching your students to learn and behave.
5. Ability to be or become calm enough to observe student behaviors in order to avoid overreacting to them.
6. Ability to be aware of your behaviors as you interact with students, i.e. initiations and responses.
7. Positive thinking about the positive approach."

(Bevett, 1976).

NOTE: Time is also given to discuss their views on the behavioral approach, i.e. the use of reinforcers. The article, Tangible Reinforcers: Bonuses or Bribes (O'Leary et al, 1972) has been used to assist in this discussion.

At this point entree has been gained for the researcher, clinician, and consultant and a number of obstacles have been analyzed. Now, one more obstacle deserves a place in this paper which mainly effects the researcher: teacher incentives. Initial approval for research may be more easily given by persons high in the chain of command than by teachers who may be directly involved in the procedures. Teachers may be asked to manipulate their daily schedules, give their professional and personal time and efforts for the sake of the experiment. What types of incentives can the outside researcher offer to the teachers?

During the last three years I have become familiar with various methods used to motivate teachers to attend workshops and/or work with research personnel in their classrooms. Depending on what organization or persons are sponsoring the research, the incentives vary. For example, a Community Mental Health Center's educational department

sponsored series of teacher workshops. They were able to convince the Superintendent of the importance of the training to the point that he offered teachers daily substitute pay for each day of attendance or some number of professional points (credits) which would effect an annual pay raise. Apparently monetary incentives have a high priority for most people these days. If the researcher has a financial grant for his project, he too can offer money. One might ask two questions at this point:

1. What can a researcher with limited monies offer teachers?

2. What ever happened to teachers who search for opportunities to obtain valuable information that will improve their professional performance?

Let us look at the second question first. A number of valuable and not so valuable workshops and tasks may be "forced" on teachers by their Boards of Education, Administrators, Unions, the State Education Department, etc. Most teachers are extremely busy these days doing their basic jobs and more. Their time appears to be limited and energy levels may be low after meeting their daily requirements. These may be reasons why they may be cautious about involving themselves in additional activities. Teacher unions have also, in many areas, made it a policy to give teachers a right to say yes or no to additional obligations. Perhaps teachers today must be more discriminative about their time and energies. Perhaps anyone in our country today would accept an extrinsic reinforcer in exchange for their time and labor. These rationalizations are very similar to ones that I thought of while attempting to find teachers to attend training sessions. Members of school staffs, administrations, and professional colleagues assured me that teachers would have to be paid money in order to insure their attendance. Fortunately this did not prove true in my case. Fourteen teachers volunteered from two school systems to become involved in a study and more than half of these teachers were willing to attend workshops as part of the experimental group. What did I do operating with limited funds to entice these teachers? Perhaps the real reasons cannot be known, because each teacher might have had different motivations and concerns. I did present the same offer to all the educators which was first a request that all the teachers allow my research staff to observe them at various times during the term to collect pre, post, and follow-up data. They were told that the observers would be non-participating. Attention was then focused on the fact that some number of them would be asked to attend a series of workshops within a two week period. Those teachers not participating in these workshops would attend a similar workshop after all the data was collected if they desired to do so. All teachers involved in the project would receive free xeroxed materials and two books that were related to the workshop topics.

The teachers were also told that the project was designed to have immediate (materials, books, training) and long range benefits (implications and applications of findings) for them and others interested in education. In essence, a "fair" contract was set up; they would be observed and in return all of them would receive materials and books along with some of them receiving training during the study and others having the option to receive similar training at the conclusion of the study. "Fair" may be a key word. Perhaps too often there is no contract, just data collection and use of educational personnel, students, and facilities. In regards to money, this project cost the school system nothing, and the cost of the xeroxed materials and books was approximately \$150. This cost to the author was not even close to what might have been paid if each teacher had been paid \$25 per day (substitutes pay) for attending the workshop. The question now might be would the teachers have volunteered without the promise of the free books and materials? The answer is not clear. Perhaps it was the combination of comments made, materials, books and their (the teachers) real desire to obtain knowledge. In support of the teachers who attended the workshops, this author is happy to report that they were very eager to learn and share their related experiences. So it may be that their willingness to acquire new and valuable information was a first consideration when they volunteered.

III.

Teachers have a need to be trained and should be trained but who can offer training? Within the public school setting, the Child Study Team* members seem to be eligible to train teachers. Outside of these systems, for the purpose of this paper, the clinical psychologist may also be eligible for the instructor's job. Two types of criteria seem necessary. One is related to the instructor's knowledge about the teacher's environment, job description, facilities, pressures, students, etc. The second type of criteria is related to how much knowledge the professional has of the behavioral approach. Both types of criteria are interdependent. In other words, the instructor(s) must not only be knowledgeable about the behavioral approach, but he must also be knowledgeable enough about the public school setting so that there is practicability and applicability to the daily situations and problems of teachers. To underscore the points just made, I will now present information gathered from interviews with highly qualified professionals in clinical and school psychology; they were asked who can train teachers?

*Term used in New Jersey basically representing a school psychologist, school social worker, learning disability specialist and a psychiatrist as consultant.

The school psychologist's comments in general were that whoever does the instructing should have a working knowledge of school systems and how they function. Sarason (1971) was cited as a source for getting insight into what the culture of schools is and the problems of change; i.e. training teachers to work as change agents. Another point mentioned was competence to train teachers. The degree of competence would be based upon previous training in the application of the behavioral approach in school settings.

A clinical psychologist's first response to this question was that there was an inadequate orientation as to what actually goes on in a public school classroom on the part of the clinician. Relevance of the behavioral approach in the hands of an instructor/consultant who lacks experience in public schools was stated to be questionable. This psychologist suggested that there was a need for the clinician who plans to work with school personnel to observe and become familiar with public school settings.

At present, school psychologists are being trained to work in school settings. There are required courses related to schools and a great deal of practicum and possibility of an internship in schools. This training endorses the school psychologist for the training of teachers. Clinicians, unless they can receive some training and experience in a public school setting during their years of preparation, are not as prepared at the completion of their degrees. Additional time and preparation seems necessary.

Another related issue is that of "professional territories" which was briefly mentioned earlier. Is the clinician who desires to train or consult with a teacher a number of times in order to indirectly help his student/client, who needs to be managed more appropriately, not also doing the job of the school psychologist? Is this a problem of professional ethics? How can it be resolved? I am aware of the large number of clients that a school psychologist must observe, test, and diagnose. Perhaps there are clients who cannot be serviced because of the "heavy" caseloads. Perhaps some school psychologists might welcome another mental health professional to come in and assist. How does the clinician know that he is welcome, does he care?

I am suggesting that the entire procedures outlined earlier in this paper (outside clinician desiring to work with clients and teachers) will serve as a first step toward:

1. Breaking down intradisciplinary walls (school vs. clinical psychology) and assuring mutual respect.
2. Establishing some degree of rapport between these professionals.

3. Developing working relationships so that it is clear who will be doing what with which teacher.

4. Establishing an atmosphere where these professionals can share ideologies.

Cooperation appears to be most essential. The school psychologist and other child study team members could assist the clinician by introducing him to various school personnel and by making him knowledgeable of certain school policies, schedules, etc. which may affect his plans for intervention. The clinician could assist the child study team by sharing his thoughts on treatment of particular students who have problems that are somewhat serious in nature but do not necessarily affect academic functioning. I have observed a need for a closer relationship between school and clinical psychologists. School psychologists who discover children who need "treatment" outside of the school system and cannot provide the necessary service for whatever reasons could better service these children and their families if they could refer them to clinicians whom they knew would be willing to work cooperatively, if necessary, on plans for intervention in the school, home, and other environments. Clinical psychologists could benefit from this relationship by being able to inquire about their client's academic and social development in schools.

Essentially, the answer to who can offer training to teachers is the following. School psychologists would be my first choice due to their specialized preparation. Of course, certain school psychologists are better trained than others in the roles of consultant and teacher of teachers. Furthermore, not all school psychologists are very familiar with the behavioral approach and its application to school settings. These variables would be considered in choosing who is most suitable. Clinical psychologists who meet the criteria mentioned in this paper would be the next choice. This is basically because they generally work outside of the system. Actually the ideal situation might be some collaboration of efforts by both psychology camps to assist schools, teachers, students, families, and communities.

IV

How to teach the behaviorally oriented workshops is the question which will now be considered. The first assumption that has been made by this author, when attempting to successfully approach teachers in a training program, is that teachers already have valuable knowledge in a number of areas. This assumption may appear to be an obvious fact, but when one considers how they were approached as students (recipient

of knowledge) by instructors/professors (dispensers of knowledge), one may recall being treated as if they basically knew nothing worthwhile and that the "dispenser" knew all. These recollections, along with feelings of superiority (holder of exclusive information) held by persons in various disciplines may make it difficult to establish initial rapport between the workshop instructor and the teachers. Quite possibly every public school teacher has some basic knowledge which can serve as a foundation in the behavioral workshop. By positively reinforcing teachers for what they do know, the workshop instructor may be able to have better success giving them new information. The teachers may be more open to expanding their techniques and sharing information, and may become more motivated to apply new theories in the classroom if they are approached as professionals interested in intellectual growth.

When preparing materials for the workshop, it is essential to consider how the materials will be communicated. Extensive scientific and laboratory jargon may be inappropriate for teachers. When possible, the instructor should use language or jargon familiar to teachers. The primary concern is to avoid overwhelming or tiring the teachers with verbiage, for it may serve as an obstacle in the learning process.

Now, what should the teachers be presented in a behavioral workshop? This author suggests the following approach. The approach in this sample workshop is positive, success-oriented, and behavioral. Attention is given to consistency, systematic planning, effectiveness, immediacy, and contingencies. Basic information about social learning theory is presented, giving special attention to the role of positive reinforcement in learning. Questions on how learning occurs, how behavior is maintained and increased, and how behavior is extinguished or decreased are answered and discussed. Key teacher behaviors are identified which seem, according to the literature, to be closely related to student academic achievement and appropriate social behavioral development. Key student behaviors are cited as those which may be considered for reinforcement by the teachers. A listing of teachers' tools gathered from child and classroom management literature is offered in order to expand the repertoires of the teachers.

It is suggested to the teachers that a broad multiple approach to academic achievement, social learning, and behavioral management might be beneficial. The broad scope of possible interventions are reflected in the list of tools and techniques which are given to them. Special efforts are made by the instructor to stress practical and daily application of the broad behavioral approach. For example, the broad focus for application would involve changing negative contingencies found in rules and regulations to positive contingencies, giving reinforcement for appropriate student behaviors while developing approximations of tasks and shaping students' skills by giving positive reinforcement. Every attempt will be made to tailor the workshop to the

needs of the individual teachers. A distinction is made between behavior modification involving graphs, charts, and basically individuals, and the broad positive behavioral approach which does not necessarily require graphs and charts but does involve groups, total classrooms, and total school environments. Techniques for setting up a systematic behavior modification program are explored but not emphasized. Social learning principles, creativity, and common sense are emphasized. Token economy programs are discussed, noting the problems of administration and maintenance. Suggestions for using "natural" reinforcements, i.e. social praise and reinforcements within the immediate environment are given. Relevant films are also used.

An example of how the theme of this workshop would be integrated with a particular teaching approach follows. Individual instruction and the use of programmed texts are examples of some methods being tried in a number of school systems to increase academic achievement and social learning. These techniques are apparently effective but even greater effectiveness can be gained. For instance, the results of individual instruction and programmed texts would be greater if students could receive immediate and meaningful reinforcers for completing subtasks. Teachers using these techniques might be more proficient if they could view these techniques within a social learning, positive reinforcement context, having knowledge of approximations, shaping, and the power of consistent and contingent positive reinforcement in increasing academic performance and decreasing disruptive/inappropriate behaviors.

V

Teacher training can take place during undergraduate preparation or when teachers have become employed in the public schools. Ideally, an introduction to the behavioral approach which explores the effects of positive reinforcement on academic achievement and disruptive behaviors would be given during undergraduate preparation. Perhaps psychology departments in universities could offer more cooperation and coordination efforts to education departments where teachers are being trained, thus equipping students with more tools for managing academic and behavioral problems.

Training teachers in the field is somewhat more difficult but apparently necessary. Scheduling of training is especially a challenge. The "outsider" coming in with an additional program has to find time and space. The alternatives are finding time during the school day, right after school, evening hours, or weekends. Perhaps the principal's, union's, or a specific department's allocated times may be used. What-

ever the problems are when training teachers in the field, this challenge should be met. Why? Because the behavioral approach seems to offer answers to problems that teachers have been facing without adequate preparation.

VI

The question of how long and often teachers should be trained remains unresolved. How much of a teacher's professional time should be utilized for training purposes? If a training program is run for two or three weekends, such as the program suggested earlier in this paper, then how long should follow-up consultation with the teachers about classroom application continue? Maintenance of the gains from training is still a problem. One teacher who attended my workshop sessions stated that there was a need for continuing the training. First, she asked whether the entire staff could receive similar training early in September in order to establish a positive atmosphere in the beginning of the school year. She then asked whether the Special Services Department or specifically the Child Study Team could provide further workshops throughout the school year. Perhaps her comments are an answer; workshops involving the entire staff specifying their roles in a success-oriented, positive school atmosphere. These workshops could take place every quarter. This may sound idealistic, but I believe that it is worth the time and effort. First, the Special Services personnel have to be trained in the use of the behavioral approach, if necessary. Then time has to be allocated for the workshops. Other aspects of planning may have to be worked out, but the main ingredient may be that a total effort by the entire school population must be made in order to gain a positive, success-oriented school environment.

VII

One reason why total staff should be considered for this type of training, especially in secondary schools, is that finding reinforcers for students in these schools may present problems unless there is complete cooperation in the school. Finding reinforcers for elementary students may not be difficult. Primary reinforcers such as candies, cereals, etc. may be perceived as reinforcing by these students. Reinforcers such as those just mentioned would probably not be reinforcing to adolescents. This age group may need more than just verbal praise, smiles, and good grades. Reinforcing events such as free time in the gym and library or free time to read or to do some other desired academic task might supplement the social praise and grade reports.

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PROCEEDINGS OF THE CURRENT TRENDS IN ARMY MEDICAL
DEPARTMENT PSYCHOLOGY H. (U) OFFICE OF THE SURGEON
GENERAL (ARMY) WASHINGTON D C A D MANGELSDORFF ET AL.

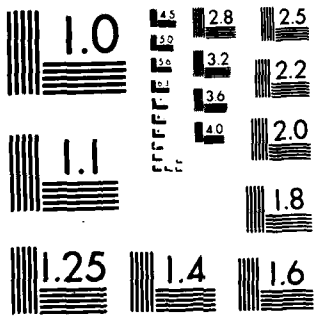
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MICROCOPY RESOLUTION TEST CHART
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In summary, teachers can be trained to use the behavioral approach and there are a number of benefits to be gained by such training for the teachers and students. There are problems in setting up these programs but the education of children is top priority. The professionals in the field of education can use all the technical assistance available in order to accomplish one of the greatest challenges: teaching students to learn.

Consultation in public schools is necessary and it presents a special challenge to consultants who are "outside" of the school system.

For those readers who would like more specific information of what goes into this workshop, the following examples are offered. An example of what is meant by a positive, success-oriented approach would be an attempt to start a school term (or year) off with all students meeting with academic success. This can be done by having the teacher observe each student closely in the first week or two and assess informally what each child can do, i.e. through very basic assignments. The goal is to construct an initial exam that everyone can pass regardless of how basic the exam is. In conjunction with this exam, a consistent positive approach to every student's ability to learn is emphasized. Positive reinforcement is given contingent upon actual "praiseworthy" performance (academic and social). A positive expectation and positive reinforcement, when appropriate, does not cost a cent, so why not give it; the student needs it. Children who are not performing well on overall tasks could be given approximations (subtasks) of the overall tasks that they can perform well on and thus receive positive, contingent praise and encouragement. This approach may seem simple and logical and it is, but for a number of reasons teachers may not be as positive toward all students as they could be. Teachers who may be using behavioral objectives with a pre and post test to measure how much students need to learn and then how they did learn, may be introducing a failing orientation early in the year. The pretest is not supposed to be passed by all students. Students may perceive their performance on this test as failing. Perhaps a pretest can be given after the initial success-oriented exam.

An example of consistency would be to have teachers give reinforcers and punishments contingent upon predetermined behaviors consistently to children so that the student learns clearly what appropriate and inappropriate behaviors are and what the consequences for these behaviors are. Many times when I consult as a clinician I ask to meet with every teacher my client interacts with. This group of teachers (and possibly parents) and I discuss problems and develop a plan for intervention which is eventually acceptable to all. Every teacher follows through on the program and this "common" program makes the student realize that he cannot manipulate some teachers and respond appropriately to only certain teachers.

An example of what is meant by immediacy is to have each teacher be aware of giving positive reinforcement or punishment as immediately as possible after the appropriate or inappropriate behavior occurs. This immediacy assures that the student learns the association between the specific behavior and its consequence.

An example of what is meant by contingencies is suggesting that teachers give positive reinforcers only contingent upon appropriate/desired behaviors. Premackian theory exemplifies what is meant here; have the student do what the teacher wants before the student is allowed to do what he/she desires. The activity that the student desires serves as the positive reinforcer.

A more specific outline of what could be presented to teachers will now follow. The question of learning new behaviors includes discussion of

1. reinforcement (primary, secondary, verbal, non-verbal, and contingent reinforcement),
2. shaping (approximations of overall tasks and reinforcements),
3. modeling (behavior teachers model [peer modeling and vicarious learning]).

The question of maintaining or increasing behaviors involves discussion of positive and negative reinforcement and schedules of reinforcement. I primarily focus, in relation to schedules of reinforcement, only on continuous reinforcement when behaviors are being initially learned then alternating (intermittant) reinforcement, as the new behaviors frequency is becoming maintained. Then phasing out of primary reinforcers and transition to social reinforcers is discussed.

The question of how behaviors are eliminated or decreased involves discussion of the extinction process, satiation, stimulus change, counter-conditioning, and appropriate punishment. Appropriate punishment would be punishing only when the student learns specifically what it is that she/he has done inappropriately and the consequence for that behavior along with what the alternative appropriate behavior(s) are and what the reinforcers are for behaving appropriately.

Additional teacher tools are also discussed. These tools may, of course, be expanded but here are some used in my workshops with the thought in mind of bringing about a positive, success-oriented total environment.

1. Rules and regulations with a positive slant, i.e. positive expectation of students' behavior.

2. Encouragement.
3. Appropriate attention.
4. Appropriate questioning.
5. Ignoring selected inappropriate behaviors.
6. Soft/loud reprimands.
7. Positive contingency contracting.
8. Group approach, i.e. the group as a vehicle for social development and learning.
9. School-wide-approach (to develop a positive school image and to get the total school population-students, administrators, teachers and staff-working together to make their school environment reinforcing, successful, and as positive as possible).

Instruction on how to set up a behavioral program has proven to be beneficial. Initially focus is placed on how to observe specific behaviors. The goal is to improve the observation skills of the teachers. First, teachers learn to observe and chart frequencies of three specific behaviors then after about a 5-day period of doing so, begin the second phase. This phase involves choosing a "target" behavior (one of the three), then focus is placed on the antecedents and consequences of that behavior. Consequences, for the purpose of teacher workshops, can be defined as teacher response(s) and peer response(s). Becoming aware of one's responses to another individual's behavior(s) is a helpful learning experience. After teachers improve their observation skills, i.e. defining specific behaviors, charting frequencies, taking note of antecedents and consequences, they begin to look at the problem behaviors in the following way. First, there is a problem behavior which must be eliminated or decreased in frequency. Second, perhaps a new (alternative) behavior must be taught. Third, in order to help the student further develop a positive image, his or her appropriate behaviors should be maintained and possibly increased through reinforcement. The learning principles and tools presented in the workshop equip the teacher to deal with the students in a systematic, consistent fashion. Creativity and use of common sense is emphasized throughout the workshop in order for teachers to tailor-make their programs to fit their individual needs. A reason for mentioning the need for creativity and common sense is that learning principles, observation skills, and "tools" for intervention do not represent a package or mechanism that works the same for all persons and problems. Words like love, sincerity, respect, and belief come to mind when I consider what may be added to the teachers' repertoire.

The belief system mentioned earlier in this paper relates more specifically to certain beliefs that I find helpful and necessary.

To further assure that the workshop presents and provides discussion of practical issues, real classroom examples of what is meant by using certain principles or tools are integrated throughout. Teachers' sharing of problems in the classroom and problems relating to implementing materials from the workshop is also encouraged; this helps to make the workshop a real experience.

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THE DEVELOPMENT AND IMPLEMENTATION
OF AN EDUCATIONAL SPECIALISTS CLINIC

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PURPOSE: The purpose of this paper attempts a description of an educational specialists clinic developed at Fort Sill, Oklahoma, during 1975-1976. As a major Army post near a growing community (Lawton), numerous demands for psychological services are made of the existing limited educational resources.

CONCEPT: In an attempt to provide more adequate service, the Child and Family Clinic was reorganized administratively into an educational specialists clinic. Using available resources its mission was to respond effectively to three broad educational needs: evaluation, treatment, and consultation.

ORGANIZATION: The clinic was organized into two sections: a clinical section with three services and an administrative section. The administrative section consisted of a chief (part-time) NCOIC (administrative assistant) and secretary. Their duties consisted of establishing useful administrative procedures to facilitate and maintain effective clinic operations. The clinical services consisted of a psychology service, social work service, and special education service. In addition to these services, various medical consultants were utilized.

PERSONNEL: The clinic was staffed with eleven (11) professionals in addition to the NCOIC and secretary. The author, a clinical psychologist, served as the clinic's chief. Two other psychologists with specialties in educational-school and developmental-child supplemented the staff. Social work consisted of two MSW officers and two B. S. enlisted specialists. Additional enlisted personnel consisted of certified teachers (elementary, secondary, and special education) and a speech and recreation therapist.

In addition to the full-time staff, various medical specialists were frequently consulted. They conducted physical evaluations on all children seen at the clinic and often assisted with difficult diagnostic questions. Among their specialties were pediatrics, family practice, neurology, psychiatry, EENT, and orthopedic surgery. Army

health nurses, physical therapists and audiologists also were most helpful.

EVALUATION: The evaluation function followed a four-step format. A physical examination was a required medical prerequisite. It served as a useful screening and coordination procedure. It also alerted the clinic staff to any medical considerations, especially when questions of hyperactivity or MBD were entertained.

After the appropriate medical evaluations were completed, an intake interview with the parents and child was scheduled. The intake consisted of two parts: a form on which a developmental and psychosocial history could be recorded and a less structured clinical interview.

Following the intake, formal psychodiagnostic and assessment procedures were administered which attempted to address academic, neuropsychological and personality functions. Standard psychological tests, in conjunction with special tests and procedures, were used.

The final step of the evaluative process consisted of interpretative sessions with the parents and child in attendance. A report with copies for school and medical records was also prepared and discussed during the interpretative sessions.

TREATMENT: Often at the conclusion of the evaluation, treatment seemed indicated. Due to the shortage of professionals within the community, it became necessary to develop a treatment and education remediation protocol from the clinic's resources. At least five (5) different treatment strategies were developed and made available contingent upon the needs and capabilities of both the patients and staff. Individual child and family psychotherapy were sometimes offered; however, group psychotherapy with both child and family usually seemed to be more effective and efficient. In addition to the psychotherapy procedures, educational programs were offered to assist in specific skill remediation, e.g., perceptual-motor development exercises, language instruction, or reading instruction.

Other forms of treatment included parental instruction or training vis-a-vis Dreikurs or Gordon, family workshops, open-forum discussions, and combinations of the aforementioned. Our goal was to lend what assistance we could and was not specific to any system or school of thought. In general, our treatment philosophy, while limited, seemed to offer a pragmatic, yet systematic, modality with which to address most problem situations.

CONSULTATION: Since our referral sources consisted primarily of schools and physicians, it became necessary to develop a consultation program which emphasized direct feedback, treatment/educational

coordination, and instruction. It was hoped that such a program would facilitate appropriate referrals and primary care.

Educational consultation consisted of child observations at the school, discussions with teachers and administrators, special training sessions and seminars, and practicum experiences. In general, a close, almost daily, interaction occurred between the staff and various educational representatives.

The physician consultation program differed in that since medical records and consultation requests were provided, little direct patient-doctor observation was required. Numerous verbal and written discussions were conducted, however, and sometimes conjoint evaluative or treatment sessions when appropriate were also held. In fact, a special monthly multiple handicap clinic was developed in order to facilitate a complete diagnostic evaluation from attending medical and educational specialists.

Both educators and referring physicians were always provided with a written report of the evaluative findings and recommendations as well as periodic progress notes. Additionally they were often telephoned by staff members in order to assure continuous and direct communication. In time, as the consultation program proved successful, additional services were able to be offered by the clinic which allowed for improved patient care and increased professionalism.

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CLINICAL BIOFEEDBACK: AN INTRODUCTION

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An 8 hour block of instruction was presented by myself and Ms. Penny Montgomery as an introduction to clinical biofeedback. In addition, four major biofeedback companies made their equipment available for examination. The presentation covered patient selection, intake information, stress evaluation, instrumentation and an overview of biofeedback training. Since the conference, I have received several requests for a basic program of biofeedback training. The following will provide an overview of biofeedback instrumentation, uses and a basic program of training which can be modified to serve most clinical needs. Our clinic at Fort Polk has successfully treated migraine and tension headaches, bruxism, fine tremors of arms and legs, chronic anxiety, stress related ENT problems, hypertension, lower back pain and, in one case, diabetes (insulin requirement was reduced by 50%). While there have, of course, been treatment failures, it is our impression that this technique has broadened our therapeutic versatility and has added to our clinical effectiveness.

INTRODUCTION

Biofeedback is a technique for presenting immediate and continuous feedback about some bodily activity, thereby allowing an individual to control certain aspects of physiological functioning. Biofeedback therapy falls into two broad categories. The first can be referred to as direct feedback, where the function to be controlled is fed back as in the presentation of blood pressure to the hypertensive. This approach has also been used successfully in neuro-muscular re-education. In the second approach, indirect feedback, the function fed back is an index of skeletomuscular or autonomic activity as in the presentation of peripheral skin temperature to the migraine headache patient. The latter approach appears to effect change as a result of a decrease in skeleto-muscular or autonomic activity and by re-training lower brain mechanisms to return to non-stress levels of physiological activity. The latter is necessary since these cerebral mechanisms appear to have habituated to stress levels of activity. (See Brown, B., New Mind, New Body). This approach appears to be applicable to a wide variety of stress related disorders.

Before providing a general biofeedback program, a list of the disorders that have been treated with biofeedback would be useful. These include: fatigue, insomnia, chronic anxiety, hyperventilation, pre-ventricular contractions, Raynaud's disease, migraine headaches, tension headaches, lower backpain, muscular tension, bruxism, hypertension, neuromuscular disorders resulting from DVA, foot drop, spasmodic torticollis, spasticity, epilepsy, asthma, arthritis, spastic colon, obsessive/compulsive thought disorders, as a replacement for minor tranquilizers, and in other disorders.

Since this paper summarizes a workshop, it is presented as such with a minimum of references. A complete bibliography is available from the Biofeedback Society; University of Colorado Medical Center, 4200 E. Ninth St., Denver, Colorado 80220.

MEASURES

Before discussing procedural considerations, the measures will be briefly described.

1. Electromyograph (EMG) is used to directly monitor the level of activity of a specific muscle group. EMG is generally seen as reflecting the amount of tension manifest in the musculo-skeletal system and likely experienced in a related psychophysiological disorder such as tension headaches, lower back pain or spasmodic torticollis. EMG is used with specific disorders such as these, with neuromuscular rehabilitation and for individuals assessed to respond to stress with increased muscular activity.

2. Skin Temperature is a measure of the temperature of the fingers and toes both of which are a function of peripheral blood flow. This variable is innervated by the sympathetic nervous system (SNS) with no innervation by the parasympathic nervous system. Since the SNS has been implicated in stress related disorders, this measure provides a means of indirectly reducing the output of this aspect of the autonomic nervous system. Skin temperature training is the treatment of choice for migraine headaches, for some individuals with Raynaud's disease, for symptoms related to vascular function and as a general index of sympathetic activity.

3. Galvanic Skin Response (GSR) has been an experimental measure in psychology since early in this century. GSR is basically a measure of the skin's conductance of a small current applied between two electrodes attached to the palmar (or fingers) or planter (soles of the feet) surfaces. The conductance is a function of sweat gland activity and increases as sweat gland activity increases. The sweat glands at

these sites are not thermoregulatory (as are the other sweat glands of the body) and appear to reflect emotional activity; increasing under conditions of stress. These sweat glands are also enervated by the SNS alone, though differing in significant respects from the enervation associated with skin temperature. Consequently GSR may reflect a different aspect of SNS functioning. GSR is currently used as an adjunctive measure in biofeedback training and as an index of "emotional response" during psychotherapy.

4. Electro-encephalogram (EEG) was popularized with alpha training during the early development of biofeedback. It is not standardly used as a clinical instrument, though it is used in training meditative states. EEG is used in research into the control of epilepsy, in controlling obsessive compulsive thought disorders, as a general relaxation device, in the study of different learning states, with some children who have learning disorders and, in some clinics, in lieu of the other instruments. EEG will not be considered below due to its uncertain value in the clinical setting.

CLINIC PROCEDURES

The following summarizes a biofeedback program beginning at the intake phase and going through termination. This is an idealized sequence and does not include many of the individualized therapeutic considerations. Many such considerations are consistent with learning theory and clinical experience and cannot be prescribed in a procedural cookbook.

INTAKE AND EVALUATION

1. Collect baseline information regarding symptoms; duration, frequency, severity, medications required etc.

a. insure that individual has been medically evaluated.

b. assess the role of the symptom in the individual's life; How they would function without the symptom and the extent of secondary gain.

2. Assess current life stresses and how they are managed along with the primary mechanism for dealing with stress. (Note: biofeedback is an adjunct to psychotherapy, consequently issues such as dealing with stress should also be included in a treatment program).

3. Standard Psychological Evaluation

- a. diagnosis and implications thereof. (Note: retarded depression is a contra-indication for biofeedback training).
- b. MMPI - Our experience suggests that patients with a neurotic triad have a poor prognosis in a biofeedback program.
- c. Symptom assessment, e.g. type of headaches, location of pain etc.
- d. Social, family, medical and sexual history.

4. Formulate case as a psychotherapy case with attention to marital, family and personality issues. Individual, family, or marital therapy are generally necessary adjuncts to the biofeedback program.

BIOFEEDBACK TRAINING (BFT)

As noted above, feedback can be either direct or indirect. BFT, as used in most psychology settings is of the indirect type. The program to be presented is a general, indirect training sequence which will provide a basic introduction to the flow of therapy and can be modified as desired. While biofeedback is used in this program largely as "instrumented relaxation", BFT also provides the patient with the experience of "letting go" and "not trying", since the opposite of each of these will interfere with successful biofeedback training.

It is my observation that this experience of "letting go" and not "needing" to control the machines is a significant therapeutic experience for many psychosomatic patients.

1. Frequency of Visits: We basically follow the Menninger schedule of three times per week for the first month, two times per week the second month, one time per week (if necessary) the third month and monthly follow-ups if needed.

2. Relaxation Training: An essential part of the program is home relaxation training. The individual is asked to provide a cassette and a relaxation program is copied for home use. The patient is asked to practice for two - twenty minute sessions each day and to record the time of day and their subjective experience before and after the training. The next tape in the series is provided as the patient reports an experience of deep relaxation (and, often, boredom with that particular tape). (An excellent series of tapes is available by Dr. Tom Budzinski).

TAPE I: Tense release cycles (2 times) (see appendix)

II: Tense release cycles (1 time)

III: Letting go of tension for each muscle group

IV: Autogenic training (see appendix)

V: Meditation (See Herbert Benson's, The Relaxation Respond)

Home relaxation training is discussed at the beginning of each session to assess depth of relaxation, areas of difficulty, self-defeating tendencies, etc.

3. Psychophysiological Assessment:

A. In some cases, research has demonstrated that specific disorders respond to specific treatment. Consequently a physiological assessment may not be necessary for patients with the following disorders.

a. For migrain headache patients skin temperature training is the treatment of choice. Training continues until the patient can warm his hands to 92° with feedback and can warm his hands, on request, to 90° without feedback.

b. For tension headache patients, EMG feedback is the treatment of choice. Treatment progresses until the patient can achieve approximately one micro-volt without feedback, and less than .75 MV with feedback for selected muscle groups. Treatment generally progresses from the forearm to the frontalis to the neck and trapezius.

B. If a specific treatment approach is not applicable, then an assessment is made.

1. Verbal report of specific manifestations of tension such as cold hands and feet, tense jaws, neck, shoulders or back, sweaty palms, etc, can be obtained on interview. This approach can delineate the initial area of training.

2. A stress interview while monitoring the machines and observing for the primary response area is another approach which I do not recommend since the training is to be associated with relaxation rather than stress.

3. An approach developed by Penny Montgomery appears to be quite valuable. Patients are hooked up to the machines and taken through progressive relaxation. The response system which demonstrates the greatest response to the relaxation is seen as most labile and most likely to produce a successful initial experience. Therefore training begins with this modality.

4. The first instrumented session can be used for habituation and assessment with BFT explained to the Patient, all questions answered and all fears of danger relieved. The Patient is hooked up with no audio or visual feedback. The therapist can take readings while doing progressive relaxation and providing time for the patient to habituate to the setting, the equipment and the therapist.

C. The initial training session is one which focuses on familiarization with the equipment.

1. The patient is given the opportunity to experiment with each machine to discover what physical and mental exercises effect the measurements. The patient is invited to think of stressful like scenes and of relaxing scenes as well as visual images such as being at the beach, warming the hands at a fireplace, warming the hands in a bathtub etc. The patient is invited to independently experiment with the machines for 10-15 minutes and then to report his sensations and experience.

2. For the second session we begin to focus on the primary measure, having this machine in the forefront with full audio feedback and other measures off to the side with their audio mechanisms turned up slightly.

This multi-modal approach was decided upon following psychophysiological evidence of response fractionation. (i.e. an individual who has warmed his hands may still report the experience of tension and this may be observed in one of the other measures if they are all being monitored). The patient is generally led through progressive relaxation for several early sessions until he is able to develop a sense of profound relaxation by focusing on each muscle group.

3. In following sessions, the patient is left on his own for 20-30 minutes per session until criterion levels are met, at which time a new muscle group may be chosen or an alternative measure may be faded in with the initial measure now maintained at slightly less than normal volume but moved off to the side. At the end of each session the experience is discussed with particular attention to subjective cues which are associated with relaxation.

4. Training continues until the criterion levels mentioned above for EMG and S.T. and personalized criterion levels for GSR are reached in addition to a subjective report of deep relaxation, which the individual is able to produce both at home and in the clinic.

a. At this point a series of sessions focused on reversal feedback are conducted to reinforce physiological control.

b. Body scanning and subjective reports of physiological activity are conducted to insure the identification of tension and the ability to "turn on" relaxation.

5. Stress management training consists of stress or imagery which produces a physiological response followed by a volitional reduction in physiological activity.

D. Termination

1. Training body awareness through daily body scanning, identification of bodily tension and reduction thereof.

2. Reinforcement of all life style changes which have accompanied BFT.

3. Recommendation for additional therapy if necessary.

CONCLUSIONS AND COMMENTS

This outline should provide you with a knowledge of the basics of biofeedback therapy, the measures and the elements of a treatment program. Needless to say, there are many potential variations at each stage and it is important that each therapist personally experiment with his equipment, different relaxation programs and different experiments and images. It should be pointed out that the state necessary for a successful biofeedback experience is one of "letting go", referred to by the Green's as passive volition. This state is familiar in meditation, where the subject "returns" his wayward thoughts to his Mantra, without forcing his thoughts. As in going to sleep, the harder one tries, the less likely one is to achieve sleep. The harder one tries to warm his hands, the more likely they will cool. The task requires a passive attitude; focusing on a spot on the wall while processing the information provided by the machine.

As in all other learning situations, gradual approximation and early and frequent success are essential reinforcers. The initial muscle group should be one that is easily controlled such as the forearm. For this reason, I tend to emphasize EMG during the early sessions since it seems to provide the highest probability of initial success. It is my observation that individuals with stress related disorders, especially migraine headaches and hypertension, are quite demanding of personal perfection. Consequently I invite them to give themselves credit for what they accomplish and point out their tendency to focus more on what they have yet to accomplish. This applies both to biofeedback training and to life situations.

As a final comment, I'd like to caution that biofeedback is not a magical procedure; treatment required 10-20 sessions, adjunctive psychotherapy and a more general systems approach. Before starting a training program, I recommend that each practitioner train for at least 10 hours on each piece of equipment in order to experience some of the sensations and to be aware of the limits of his equipment. My personal and professional experiences with biofeedback have been extremely rewarding. It appears that the areas of application will grow as quickly as new measurement devices are developed. At this time there is considerable attention on devices which directly feed back blood pressure or heart rate. In a short time, the control of hypertension and other previously uncontrollable physiological states is likely. At the present time, this technique appears to be a valuable addition to the Psychology Clinic.

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MODIFIED RELAXATION INSTRUCTIONS

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Close your eyes and we'll begin. Let's start with your right hand. I want you to clench your right hand into a fist, clench it very tightly and study those tensions, hold it....and now relax. Relax your right hand and let it rest comfortably. Just let it relax....Once again, now, clench your right hand...., clench it very tightly, notice the feelings of tension....and now use them as a signal to yourself to begin relaxing, relax now and note the pleasant feelings in your hand....Now do it with your left hand. Clench your left hand into a fist, study the tensions in the hand and in the forearm. Study those tensions....and now relax. Let your left hand go loose and relax....Once again clench your left hand. Study the tensions, hold it....and now relax your left hand. Let your hand open and get very relaxed....Note the relaxation that is very gradually coming into both your right and left hand....Now hold your right hand out palm down and then bend your hand upward at the wrist so as to point the fingers toward the ceiling, study the tensions now, especially in the back of the hand and forearm. As you become increasingly aware of the tension, use it as a signal to begin relaxing, relax your wrist....just relax.... There is no need to strain the muscles when I tell you to tense them. All you have to do is tense them a little bit below the level where they would be strained, so do that once again with the right wrist. Point the fingers upward so that you can feel the tension in the back of the hand and in the forearm....and now relax that once again....Let the right hand rest comfortably and continue to relax....Now let's do the same thing with the left hand. Point the left hand upwards at the wrist. As you become more aware of the tension in your forearm and back of the hand, use the feelings of tension as a signal to turn on relaxation....Let your hand drop down and relax away that tension....Once again, bend your left hand up at the wrist pointing toward the ceiling, study the tension, hold it....and now relax. Relax your left hand, let it go loose and enjoy these feelings of relaxation that are becoming more evident in both the left and right hands and forearms....Now with both arms I want you to flex the biceps muscles by bringing the hands up toward the shoulders almost trying to touch each shoulder with the respective hand. That's right, notice the tension, use these feelings as a cue to relax, let your arms return to their resting position, continue to relax, relax away those tension signals....Let's do that once again. Bring both arms up flexing the bicep muscles making them tense and

use the tension you feel in those muscles as a cue to relax again, relax away all those signs of tension....Now straighten your arms, straighten them out so that you feel tension in the triceps muscles along the back of the arms, stretch your arms and feel the tension....and now relax. Let your arms get comfortable again, very relaxed. Now straighten them once more so that you feel tension in the back of the arm, feel that tension, hold it....now relax. Let your arms get more and more relaxedNow I want you to shrug both shoulders. Bring both shoulders up as if you wanted to touch your ears with your shoulders, way up, feel the tension in the shoulders and in the back of the neck. Feel it too in the upper back. Study the tension....and now drop your shoulders. Relax those muscles, let them get limp and loose and relaxed....Let's do that once again. Shrug your shoulders, bringing them way up, almost to touch your ears, study the tension....and now relax. Let the shoulders drop down and continue to soak up these feelings of relaxation spreading now into the shoulder area....Now I want you to wrinkle up your forehead, wrinkle it up frowning, make it as wrinkled as you possibly can, study the tension around the eyes, above the eyes in the forehead region.... and now smooth out the forehead, relax those muscles, let them get very loose and smooth and relaxed....Once again, wrinkle up your forehead, study the tensions in the forehead above the eyes, pick out those tension signs and use them as a signal to start relaxing your forehead, smooth it out....Keep relaxing until you relax away all the tension.... Now I want you to close your eyes tightly, close them tightly so that you feel the tension around the eyes, study that tension....and now relax. Let your eyes remain lightly closed as they were before, very relaxed, comfortably relaxed....Once again close your eyes very tightly, study the tension....and relax now, relax those muscles, let them get loose and relaxed....Now wrinkle up your nose and feel the tension in your cheeks and the muscles around your nose, hold it....and now relax. Let your face get loose, more and more relaxed....Once again, wrinkle up your nose, notice the tension, hold it....and now relax. Let the warm feelings of relaxation spread through your face now, more and more relaxed....Now I want you to press your tongue up into the roof of your mouth tensing the muscles that control the movement of the tongue. Study that tension....and then relax. Let your tongue drop down to the floor of your mouth and rest comfortably, just relax....Let's do that once again. Push your tongue up into the roof of your mouth, feel the tension in the mouth....and now relax....Relax those muscles just as you've been relaxing the others and let yourself get more and more relaxed now, more and more relaxed....Now I want you to press your lips together. Press your lips together so that you can feel tension around your mouth. Push them together, notice the tension signals and now begin relaxing....relax your lips until the tension is gone and you feel the calm, gentle sensations of relaxation....Once again, press your lips together, study the tension around the mouth, hold it, study it....and now relax. Relax those muscles, let your lips be slightly parted as they are when your

mouth is completely relaxed. Relax and let yourself be very comfortableNow clench your jaws by biting your teeth together, study the tension throughout your jaws, hold it....relax your jaws now. Just continue to relax....Once again, bring your teeth together, bite hard and feel the tension....and now relax. Now I want you to push your head back, push it back so that you can feel tension in the back of the neck, push it back, study that tension....and now relax. Let your head return to where it was before, to the resting position and feel the relaxation, feel the relaxation now going into the area of your neck....Once again, push your head back against the chair, study the tension in the back of the neck, hold it....and now relax. Relax those muscles and let them get more and more comfortable and relaxed....Now I want you to bend your head forward and bury your chin into your chest tensing the muscles more in the front of the neck now, pick out the cues of tension and relax....let your head come back up and relax away any remaining feelings of tension....Do that once again. Push your head forward until the chin is buried into the chest. Study that tension....and now relax....Relax those muscles and note how the relaxation is spreading down from the forehead through the facial muscles and now into your neck. Note also how it's developing more and more in the shoulders, the upper back, the arms, the hands. Those parts of your body are feeling more loose, more relaxed, feeling more and more comfortably relaxed....Now I want you to arch your back. Bring your back off the chair sticking out your chest and stomach. Feel the tension now in your arched back....and then relax. Let yourself relax, work on those cues of tension, relax them all away until you feel only relaxation....Do that once again, arch your back up, way up, let in the tension....and now relax. Just continue relaxing like that, more and more relaxed....Now, to tense the muscles in the chest and stomach, I want you to take in a very deep breath through your nose and hold it, hold it and study the tension throughout the chest area....Now exhale through your mouth and continue breathing as you were....Just continue relaxing like that....Once again, take in a deep breath through your nose and hold it, study the tension....and now exhale through your mouth and continue breathing as you were, letting your breathing get more regular and more relaxed, more and more relaxed....Now take a very deep breath through your nose, hold it....now exhale through your mouth....And once again a very deep breath through your nose and hold it....and now exhale again through your mouth and continue breathing naturally. Just continue as you were, your breathing getting more regular, more and more relaxed....Now I want you to suck in your stomach, almost as if you wanted to make it touch your spine. That's right, suck it way in there....and now relax. Notice once again how you can pick out the feelings of tension and use them as a cue to begin relaxing these muscles....Do that again, suck in your stomach, feel the tensions....and now relax them away. Relax the stomach and now let your breathing get more and more relaxed....Now I want you to tense the stomach muscles, make your stomach very hard as if someone is about to punch you in the stomach. Hold it, study that tension....and now relax. Relax the stomach muscles, let them get loose and relaxed....Let's do that

once again. Tense your stomach muscles, let your stomach get very hard, hold it....and now relax. Relax those muscles, let them get more loose, more relaxed. Notice how the relaxation is spreading downward now, through your chest and into the area of your stomach....Now I'd like you to tense your buttocks by squeezing them together hard, flex them tightly and study the tension....and now relax. Relax those muscles, let them get more loose, more relaxed....Once again now, flex your buttocks. Study the tension now in the buttocks muscles, hold it....and now relax. Relax those muscles, let them get more loose, more relaxed....Now I want you to tense the thigh muscles in both legs. Stretch out both legs, lifting the feet off the floor, making your legs as straight as you can, feeling the tension in the muscles of your thighs, pick out the tension signals....and now relax them away. Let your feet drop, relax away those feelings of tension, notice how you can ease them away and experience the pleasant feelings of relaxation insteadDo that once again, tense your thigh muscles, stretching out both legs as far as you can, study the tension....and now relax. Just relax your thighs, let them get loose and relaxed, more and more relaxed....I want you to tighten the back of your thighs now, your hamstring muscles, by pushing back against the chair with your legs, push your feet back against the chair and notice the tension in the back of your thighs, hold it....and now relax....Once again, push your feet and legs back against the chair, feel the tension, hold it....and now relax, let the relaxation spread throughout your thighs....Now I want you to point your toes upward toward your face so that you tense the muscles in the shins. Do that with both feet, study the tension....and now relax. Relax the muscles of the shins, let them get more and more loose, more and more relaxed....Do that once again. Tense your shin muscles by bending the feet upwards pointing the toes toward your face. Study the tension....hold it....and now let go. Relax. Note the relaxation coming into the shin muscles now....Now I want you to curl the toes of both feet downward as if you were burying them into the sand, so that you can feel the tension particularly in your calves. Pick out the tension cues....and relax them away. Just concentrate on the relaxing away of tension after you notice its cues. Do it again. Curl your toes downward, study the tension in your feet, in your calves....and now relax. Just continue relaxing, getting more and more relaxed....Notice now how throughout your whole body your muscles have gotten more relaxed and how you're able to capture the very pleasant feelings, the comfortable sensations which accompany deep muscle relaxation. Notice how loose and heavy your body has become as you get more and more relaxed....Even when it seems impossible to relax any further there's still an extra bit of relaxation available, an extra bit of feeling of well-being, of calm.... Just let yourself get more and more relaxed, more and more relaxed.... What I'm going to do now is just run through the various muscle groups that we have relaxed and as I name each one you make sure that that muscle group is relaxed. Try to make it even more relaxed than it is now. Both hands relaxed, forearms and upper arms, getting more and more loose, more and more relaxed; your shoulders resting easy and loose, your forehead now

smooth and easy, your mouth, your neck. Feel the relaxation spreading, getting more profound, down now into your chest and your stomach. Feel those parts getting more relaxed, more and more relaxed....Your buttocks and thighs, feel it spreading downward into these parts and now into your calves, and into the feet. Notice the very pleasant relaxation....Let it get more and more relaxed, very comfortably relaxed....Just continue relaxing like that, and soak up these very pleasant, positive feelings that accompany deep muscle relaxation. Just continue relaxing like that.

VOLUNTARY CONTROLS

Migraine Headache Project

"Practice the following exercise 4 to 7 times per day, allowing 15 minutes for each practice session. Always try to practice just before eating or 2 or 3 hours after."

1. Neck Rolls and Shoulder Presses (rotation of shoulders alternately and simultaneously forward and backward. (4 times each)
2. Diaphragmatic Breathing (empty lungs completely and fill them to capacity - it should be a deep, regulated sustained breath) Through the nose
In...2...3...4... Hold it ...2...3...4... Out ...2...3...4... (Repeat at least 7 times)

3. Autogenic Phrases

I feel quite quiet . . . I am beginning to feel quite relaxed . . . My feet feel heavy and relaxed . . . My ankles, my knees, and my hips, feel heavy, relaxed, and comfortable . . . My solar plexus, and the whole central portion of my body, feel relaxed and quiet . . . My hands, my arms, and my shoulders, feel heavy, relaxed . . . and comfortable . . . I feel all the tension in my neck letting go and relaxing . . . The lower neck feels relaxed . . . The upper neck at the base of my head is letting go . . . letting go . . . My head feels free . . . My jaws and my tongue are letting go . . . They feel relaxed . . . I feel the areas around my mouth, my nose and my forehead letting go and relaxing . . . They feel comfortable and smooth . . . My whole body feels quiet, heavy, comfortable and relaxed.

I am quite relaxed . . . My arms and hands are heavy and warm . . . I feel very quiet . . . My whole body is relaxed and my hands are warm, relaxed and warm . . . My hands are warm . . . Warmth is flowing into my hands, they are warm . . . I can feel the warmth flowing down my arms into my hands . . . My hands are warm, relaxed and warm . . .

My whole body feels quiet, heavy, comfortable, and relaxed . . . My arms and hands are heavy and warm . . . My mind is quiet . . . I withdraw my thoughts from the surroundings and I feel serene and still . . . My thoughts are turned inward and I am at ease . . . Deep within my mind I am relaxed, comfortable, and still . . . I am alert, but in an easy, quiet, inward turned way . . . My mind is calm and quiet . . . I feel inward quietness.

The relaxation and reverie is now concluded and the whole body is re-activated with a deep breath and the following phrases:

"I feel life and energy flowing through my legs, hips, solar plexis, chest, arms and hands, neck, face, and head . . . The energy makes me feel light and alive." 'Stretch.

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PERSONALITY CORRELATES OF SUCCESS IN
INTERVIEWING AT THE USUHS SCHOOL OF MEDICINE

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Interviewing is a widely used and heavily weighted selection tool for many occupational and educational programs. This is certainly the case for entrance to medical schools in the United States, with the vast majority requiring, or at least strongly encouraging, personal interviews as a prerequisite for entrance. Because medical schools choose from a large pool of highly qualified applicants (this past year, over 40,000 individuals applied for less than 15,000 spaces in U. S. medical schools) the interview often becomes a critical factor in the admissions decision.

Because of this decisive importance of the personal interview, combined with the fact that, in any given year, only about one applicant in three succeeds in being admitted to any U. S. medical school, interviewing has become a game that clearly has big winners and big losers. Individuals with extremely strong academic credentials are often denied admission in favor of others who have less spectacular grades and test scores but are able to present themselves more favorably in face-to-face encounters. This may not be merely a matter of not getting into one's first choice school; an applicant who consistently interviews poorly may not get into any medical school. Conversely, although it is unlikely that anyone with a weak academic record gets into medical school solely on the basis of interview skills, especially since those with weaker records do not get invited for interviews at most schools, a candidate with a good but not highly competitive record may have good prospects if interviewers like him or her. For example, at USUHS this past year, several of the acceptance offers (for 32 positions) were extended to individuals who were not even in the top two or three hundred on an objective academic order of merit list. In most cases, it was impressive interview reports that convinced the Admissions Committee to select these candidates. Several individuals who looked like superstars on paper were unimpressive in their interviews and consequently never really had a chance for selection to the class.

In view of the major effect interviewing has on who actually attends

medical school, it is sensible to ask what kind of people fare well in selection systems that weight the interview heavily. In spite of the many volumes written about interviewing -- both "how to" books and scholarly works such as Matarazzo and Wien's The Interview -- we really know very little about what characteristics make a person likely to succeed in interviews. This may be a reflection of the fact that research in the area has concentrated on the interviewer and on the process itself rather than on the interviewee, or it may simply show that interviews are so diverse that there is no universal "good interviewee."

Of course, the one thing we would like to be able to say is characteristic of good interviewees is that they are better prospects for whatever they are being selected for. However, reality has not given us much help here. The validity of the medical school admissions interview, in terms of correlation with any meaningful measure of success as a physician, has been hard to demonstrate. Medicine is not alone in this situation -- the literature of the last several decades is full of studies that suggest that interviews have little predictive validity. Nevertheless, the idea of the interview as a selection tool is so intrinsically appealing that we continue to search for ways of improving interviews rather than abandoning the notion. Very few of us would, even knowing the discouraging research results, hire someone for a key position without an interview.

It will be years before anyone can evaluate the extent to which the USUHS interviews improve the quality of our selection of future military physicians. Indeed, we may never be able to evaluate this question adequately because we have a restriction of range problem. Those who do poorly in interviews are not selected, so we cannot say how they would have performed. However, even if we cannot get at validity in terms of any long-range criteria, we can attempt to evaluate the process by looking at how people who do well in their interviews differ from those who are seen less positively.

The Interview Situation

Approximately four hundred individuals were interviewed as part of last year's USUHS admissions process. These people were chosen from the larger pool of 1700 that initially applied to the School of Medicine. The chief criteria in selection for interview were undergraduate grades and MCAT scores; however, it was possible to be selected for interview on the basis of other factors such as graduate work, demonstrated achievement in science, or a strong military background.

Each interviewee participated in two interviews of approximately one-half hour each. The interviewers were all senior military medical officers. The interview itself was semi-structured in nature, with the interviewers having been given certain characteristics to look for,

but having wide latitude in how to go about gathering their information. In order to introduce some uniformity, interviewers attended a brief workshop prior to conducting interviews. These workshops included discussion of the goals of the interview, questioning techniques, and criteria for evaluating the interaction.

Interviewers rated applicants on several characteristics, and made an overall assessment on a one (best) to seven (worst) scale. The overall assessment will be the focus of the analyses presented below. Interviewers were specifically asked not to seek out information about academic matters such as grades and MCAT's, and this instruction seems to have been followed in the vast majority of cases.

Interviewees also took several psychological inventories. Those that will be discussed here are the Machiavellianism Scale, Rotter's Locus of Control (Internal-External) Scale, and the What Kind of Person Are You Test, which purports to measure creativity.

Interviews were conducted in eight different weekend sessions, held in Washington, D. C., San Antonio, Texas, and San Francisco, California. Not all analyses are complete at present, so the findings discussed below may be based on different samples, as will be pointed out in each case.

Findings and Discussion

The first question in investigating interview performance is whether or not it is a reliable phenomenon. We took as our index of reliability the correlation between applicants' first and second interviews. For the total sample ($n=384$), the Pearson r was .32 ($p<.001$). While this is highly significant, it is still not encouraging. The statistical significance tells us only that knowing how well a person did in one interview allows us to predict at a better than chance level how well that person did in the other interview. However, the low magnitude of the correlation means that this relationship will account for only slightly more than 10 percent of the variance. Thus, although no formal criteria for interrater reliability exist, one cannot consider these interviews as highly reliable.

When the same statistic was computed for the individual sessions, the range of correlations was .19 to .51. Various simple transformations of the original one to seven ratings, such as a straightforward favorable/unfavorable dichotomy, were tried, and none of these increased the correlation between interviews.

Thus, the concept of "interview performance" may be on shaky ground,

since the relationship between two interviews is not even close to unity. At the present time, it cannot be said whether this lack of high reliability is due to individual differences among interviewers, general instability in behavior ratings (of a sort we would observe within raters if they rated the same candidate on several occasions), or differences in applicant behavior from interview to interview. Most likely, some combination of these three factors is at work. Whatever the cause of this unreliability, it seriously limits the extent to which one can expect other phenomena to correlate with interview performance.

Nevertheless, the personality test data that have been examined so far suggest that it may be possible to find systematic correlates of interview performance. To minimize the effects of interview unreliability, we started out by looking at the interview session which had the highest interrater reliability ($r=.51$, $n=84$, $p<.01$). Table 1 presents the correlations between three personality measures and interview rating. While there were no correlations with creativity as measured by the "What Kind of Person Are You?" scale, both the Mach scale and the I-E scale were significantly correlated with an applicant's interview ratings. The lower an individual's Mach score, and the more Internal his beliefs about locus of control, the more likely he was to be rated favorably in his interviews.

Finding that Internals were rated more favorably than Externals is no surprise, since those who believe that they control their own destinies would appear to be more apt candidates for a rigorous program of study. However, the finding that low Machs were more successful interviewees than high Machs is somewhat inconsistent with other literature on Machiavellianism. High Mach's, according to Christie and Geis (1970) tend to be more successful than low Machs in situations where three conditions are met: (1) face-to-face interaction; (2) latitude for improvisation; and (3) affect irrelevant to the task goals may be aroused. Certainly, a selection interview would seem to be a situation meeting these criteria.

There are several possible explanations for the superior skill of low Machs as interviewees. The most obvious is that the USUHS interviewers found certain behaviors typical of high Mach's undesirable. This is an appealing notion, since it implies that USUHS interviewers are hard to "con." However, in the absence of specific evidence as to what these behaviors might be, one should be cautious in making such an interpretation. One major reason for this caution is that some of the studies reported by Christie and Geis suggest that the difference between high and low Machs is not so much in the types of behaviors they engage in, but rather in the timing of their behaviors. That is, they do the same things, but high Machs do them at the most useful moment. Therefore, there is not basis in the literature for expecting that high Machs would tend to say or

do inappropriate things more often than low Machs.

Another possibility is that the USUHS interviewers were themselves high Machs, and simply tended to see high Mach interviewees as adversaries. We do not have Mach scores on interviewers, but hope to correct this lack in the future.

The other main interpretation of this finding is that the correlation between Machiavellianism and interview ratings is a spinoff of the correlation between Internal-External scores and ratings. In the present sample, Mach scores and I-E scores were correlated ($r=.36$, $n=76$, $p<.01$), which replicates a finding by Wrightsman and Cook (1965). So it may be the correlations of these two scales with ratings are not independent phenomena. This interpretation however, does not lessen the fact the the USUHS interview was a situation in which high Machs were less successful social manipulators than low Machs. In fact, the correlation between Machiavellianism and Externalism is not one that fits very well with the rest of the literature. The generally prevailing explanation (Christie and Geis, 1970) is that a certain sort of cynicism leads one to score high on both the Mach and the Externalism Scales. However, this explanation treats the phenomenon as an artifact of paper-and-pencil testing, without other behavioral consequences. The present result might indicate that this phenomenon does have real world consequences. We intend to re-analyze the data to see if either of the correlations between scales and ratings disappear when the score on the other scale is controlled.

Besides looking for personality correlates of interview performance, we wanted to examine some other aspects of the interview process. One question that occurred to us was "how well can interviewees perceive how they did?" We did not ask interviewees to estimate their own ratings; however, we did ask them for a general assessment of "how well did the interview go?" for each interview. In the session for which the personality results are presented above, interviewees' perceptions of how well each interview went had a correlation of $r=.27$ with the actual rating ($n=168$, $p<.01$). While this correlation was not of overwhelming magnitude, it does suggest a better than chance awareness of how one has performed in the eyes of the interviewer. In the future, we intend to see if individuals who are more accurate in perceiving their performance differ in any other way from those who are less accurate.

Another question of importance is the extent to which interview performance is independent of other indices of academic ability. As noted above, an attempt was made to structure the interview in such a way that academics were not a factor. The feeling was that it is wasteful to go to the time and expense of interviewing only to recapitulate data that is already in the file. Even though we had good evidence that academics were not brought into the interview to any great extent, we still felt

we should look for correlations between objective indices of academic performance and interview performance. After all, the same qualities that cause a person to do well academically or test well might be useful in interviews. Although the analyses are not yet complete, we have not found any positive relationship between GPA and interview rating or between Verbal MCAT scores and interview rating. In one session, we actually found a significant negative relationship between GPA and interview ratings, a point we are pursuing further.

To summarize, at this point we can say the following about success in the (USUHS) admissions interview:

- (1) The interrater reliability of the interviews is not high, so interview performance may not be a well-unified concept,
- (2) There does seem to be a tendency for low Machs and Internals to be rated more favorably than high Machs and Externals,
- (3) Interviewees seem to have some awareness of how well they have done,
- (4) There does not seem to be any positive relationship between such traditional measures of academic ability as grades and Verbal MCAT scores and interview ratings.

While this is far from being an exhaustive profile of the character of the successful interviewee, it does leave us with reason to be optimistic that we can improve our knowledge of what sort of person gets into medical school as a result of the personal interview.

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TABLE 1

Correlations Between Personality Scales and Interview Ratings

	<u>Scale</u> <u>Machiavellianism</u>	<u>Internal-External</u>	<u>Creativity</u>
Correlation (Pearson r)	.33*	.31*	.05
n	81	78	76

* $p < .01$

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A COMPARISON OF TECHNIQUES FOR THE VOLUNTARY
SLOWING OF HEART RATE IN HUMANS

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ABSTRACT

The results of two experiments are reported which compared heart rate (HR) feedback to other techniques for eliciting voluntary HR slowing. The first experiment showed that HR feedback and EMG feedback both generated greater decreases in HR than a control task (tracking a computer-generated display). However, neither type of feedback proved superior to corresponding instructions alone without feedback; also, control subjects not receiving feedback performed just as well in an instructions-only period as subjects in the two feedback groups. This suggested that feedback was not a critical variable in slowing performance. The second experiment compared HR feedback to an analog of Transcendental Meditation. The latter approach proved superior to feedback, in both the standard paradigm of alternating work-rest cycles and a continuous fifteen-minute period. "Meditation" subjects also exhibited less perturbation in respiratory activity and greater decrements in frontalis EMG. The theoretical and clinical implications of these results were discussed.

INTRODUCTION

A common finding in studies of learned heart rate (HR) control has been that speeding HR is an easier response to acquire, and yields considerably larger effects, than slowing HR (e.g., Headrick, Feather, and Wells, 1971; Gatchel, 1974). In addition, HR slowing is unresponsive to parametric manipulations which affect speeding performance (e.g., Lang and Twentyman, 1974; Young and Blanchard, 1974).

A common explanation for the attenuated slowing results has been that resting HRs in the laboratory are already so slow as to preclude further slowing, while there is practically no upper bound on the

magnitude of rate increases (Engel and Chism, 1967; Lang, 1974). This position, however, receives scant support from findings of modest correlations between baseline HR levels and the degree of slowing (Gatchel, 1974). In addition, Bell and Schwartz (1974) found that subjects' self-recorded HRs upon arising were eight to nine beats slower than those recorded during laboratory sessions in HR slowing, suggesting that further decreases in the experimental situation are metabolically feasible.

Accordingly, the goal of the two studies reported here was to find ways of maximizing learned heart rate decreases in normal, college-age subjects. The first study was suggested by a consideration of the cardiac-somatic hypothesis developed by Obrist and associates (Obrist, Webb, Sutterer, and Howard, 1970), in which heart rate and skeletal muscle activity are seen as closely linked centrally under almost all normal, everyday conditions. With respect to the HR training data, this theory prompts the inference the subjects in speeding sessions discover respiratory and other somatic maneuvers which increase HR; subjects instructed to slow, conversely, find further reductions from the somatically quiescent baseline periods difficult. In addition, it has also been suggested that feedback may actually hamper slowing performance due to its intrinsic activating effects (Lang, 1975).

Taken together, these considerations point to the possibility that HR may be reduced most efficiently by lowering arousal level by whatever means work best, rather than concentrating exclusively on the HR feedback paradigm. In accordance with Obrist's theory, the first study therefore tested the hypothesis that training in muscle tension reductions, as reflected in the electromyogram (EMG), might cause greater decreases in HR than feedback of the heart rate itself.

METHOD

Subjects. Subjects were 30 undergraduate males enrolled in introductory psychology courses.² All were screened before the experiment for a history of cardiovascular disease, medications, or drug use.

Apparatus. The subject was seated in a reclining armchair in a small, partially sound-shielded room. Appropriate electrodes were attached to measure skin conductance, heart rate, respiration, and frontalis EMG. These measures were amplified and displayed on a Beckman type RM polygraph. The administration of instructions, stimulus presentation, and data recording were all accomplished on-line by a PDP-12 computer which had a slave display oscilloscope for the subject to view.

The feedback display was identical in appearance for all groups, but generated by different sources depending on the condition. The HR display consisted of a stationary horizontal line extending from the extreme left edge of the PDP-12 oscilloscope and terminating at some point on the scope face, with its end marked by a short vertical slash. The length of the line was directly proportional to the length of the previous R-R interval; each R wave interrupted the computer and caused the line to jump instantaneously to a new length. The line thus extended farther to the right as the HR slowed. Two identical R-R intervals were denoted by a brief disappearance of the short vertical slash. On the EMG display, the line length of the trace was proportional to the time between resets of the integrator, so that the line became longer with increased relaxation. Finally, in the tracking condition the computer presented a randomly ordered sequence bearing no relation to any physiological measures.

Design. The design involved ten subjects in each of three groups. Each subject was run for five ninety-minute sessions; the first session for each group involved nonfeedback tasks designed to habituate subjects to the experimental situation and to assess their physiological responsivity. Subjects in Group One were asked to slow their heart rates, both with and without feedback, for the remaining four sessions. Group Two subjects attempted to reduce activity in the frontalis muscle. Group Three was a control group, whose members continued the display task of session one for the remaining four sessions.

Procedure. At the beginning of each session, the subject was seated in a comfortable reclining chair, and electrodes were attached to measure skin conductance, heart rate, respiration, and frontalis EMG. The instructions were then presented on the subject's oscilloscope slaved to the PDP-12 computer. Two blood pressure determinations were taken just before the baseline period started, and again after the session was over.

Each session consisted of five trials; each trial contained four parts. The first was a three-minute feedback period during which subjects attempted, depending on the condition, to decrease HR or frontalis EMG, or track the computer-generated display. Each successful response, which occurred when the end of the horizontal feedback line fell to the right of a vertical target line in the center of the scope (Figure 1), was reinforced by a brief display of the word "GOOD" on the oscilloscope screen. This was followed by a one-minute rest period, after which subjects worked on their respective tasks without feedback for a three-minute period designated as "transfer"; during this time subjects in the control group were instructed to slow HR also. A "scoreboard" was then briefly presented which informed subjects of their average HR, and change from baseline, during the preceding transfer task. The fourth part of each trial was another one-minute rest period, after which the next trial ensued.

Preceding the first trial of each session was a three-minute resting baseline period with no instructions, and then a three-minute period in

which subjects were given a chance to decrease HR or EMG before any feedback was presented. A three-minute resting baseline also followed the last trial of each session. Session one, as mentioned above, was composed of tasks designed to habituate subjects to the laboratory and to the physiological recording procedures; all subjects tracked the computer-generated display during feedback periods, and estimated 10-second units of time during transfer.

Data reduction and measurement. All primary data reduction and re-recording were accomplished on-line by the PDP-12 computer, which stored frequency histograms for the HR data and summary statistics (median and inter-quartile range) for EMG, skin conductance, and respiration measures. An editing program was used to eliminate artifacts due to movement, missed triggers, etc. from the HR scores. The median and inter-quartile range (IQR) were used in preference to the mean and standard deviation to avoid distortion from one or two extreme or artifactual points. Change scores were calculated in which each variable for each trial period was expressed as a deviation from the corresponding value for the initial three-minute base period at the beginning of the session. These scores were then used for between- and within-subjects analyses of variance on each measure.

RESULTS

Overall, the mean initial HR of the sample was relatively low, averaging 63.8, 63.9, 61.9, and 63.4 for the four experimental sessions. Analyses of variance revealed no significant differences between groups or sessions on these scores or any other variables. There were also no between-groups effects for the baseline or task periods for any measures in session one. It was concluded that the data analysis was not compromised by initial levels differences.

Deviation scores for all physiological measures were subjected to analyses of variance with four main factors; three groups and two target settings made up the between-subject factors, while four sessions and five trials comprised the within-subject factors. (Two target settings were used across subjects, reinforcing either 50% or 75% of the resting distribution of HR or EMG; however, this manipulation had no effect and is not considered further in the analyses.)

Broadly, the pattern of HR change during each session was one of reduced HR during the feedback and transfer periods, with consistent and significant increases in rate during each following rest interval. This pattern was mirrored by the activity and variability of EMG, respiration, and skin conductance. These data, and an inspection of the raw polygraph records, suggest that subjects used the rest periods to shift position in the chair, take one or two large breaths, and glance about the room more than during task periods. Because this activity varied randomly across

groups and sessions, and the feedback and transfer periods were of primary interest, no further analyses of the rest periods were undertaken.

For feedback trials, Figure 2 shows that the decrease in median HR for the HR and EMG groups was markedly greater than for the tracking group. This anticipated difference was statistically significant ($F=4.07$, $p<.01$). A separate analysis showed that HR and EMG groups did not differ from each other. Collapsing over groups and sessions, there was also a marked tendency for HR to decrease progressively across trials during feedback ($F=13.22$, $p<.001$).

The results for transfer periods were somewhat different. With all three groups instructed to lower HR or EMG, the reduction in median HR was very similar in all of them; no significant difference emerged. The magnitude of the changes for the HR and EMG groups was very comparable for feedback and transfer, and in fact very slightly greater for transfer during the last two sessions. Supplementary within-group analyses confirmed that there was no difference in HR change between feedback and transfer for either the HR or EMG groups. Tracking subjects, however, achieved significantly greater decrements during transfer than feedback periods ($F=8.43$, $p<.025$). The reduction in HR across trials was also similar to that for feedback, with a significant reduction for all groups ($F=10.70$, $p<.001$), and no interactions between groups and trials.

The EMG data are almost identical in nature to the HR results. Small reductions in frontalis EMG were observed during feedback for the HR and EMG groups, while tracking subjects actually displayed increased tension for the last three sessions (Figure 3). The F ratio for this difference was 3.47 ($p<.05$).

Unexpectedly, the EMG group did not achieve consistently greater reductions in EMG than the HR group, and the two groups did not differ statistically. The HR and EMG groups did exhibit a very slight downward trend across feedback trials, but this result was significant only when the tracking group was excluded from the analysis ($F=3.38$, $p<.025$).

The EMG data for transfer periods again parallel HR results. All three groups evinced reductions of similar magnitude in frontalis tension levels (Figure 5), comparable to those achieved during feedback. In fact, within-group analyses revealed that EMG actually decreased more during transfer than feedback for both the HR group ($F=4.38$, $p<.10$) and the EMG group ($F=9.01$, $p<.025$). The reductions by the tracking subjects led to a substantial difference compared to the increases seen during feedback ($F=5.25$, $p<.05$). As with HR, the groups did not differ significantly during transfer. However, here no trials effect was observed for either the whole sample or for the HR and EMG groups considered separately.

A somewhat different picture is given by the respiration data. Heart rate control subjects evidently breathed more slowly and deeply, as well as more variably, during HR control periods. Figure 4, e.g., shows the change in median respiratory total period (RTP) for feedback trials; the changes are similar for both inspiratory and expiratory periods. The difference was significant whether the tracking group was present ($F=5.46$, $p<.025$) or absent ($F=5.31$, $p<.05$) from the analysis. Similar results occurred during transfer periods, although the levels of significance were marginal, apparently due to greater variance. A comparable picture emerged for the variability of respiration rate for both feedback and transfer.

The respiration amplitude data showed that HR subjects breathed more deeply during feedback than those in the other two groups, although the difference is only marginally significant ($F=3.27$, $p<.10$). As for respiration period, HR subjects were also more variable in the depth of their breathing during feedback ($F=6.32$, $p<.01$). Data for the transfer period were in the same direction as for feedback, but the effects were not as strong and failed to reach significance.

The skin conductance data were largely negative. All groups showed a marked decrease in skin conductance level over trials ($F=19.91$, $p<.001$), as well as a similar decrease in spontaneous activity (i.e., IQR of skin conductance; $F=13.23$, $p<.001$) for both feedback and transfer periods. However, no overall differences between the groups emerged.

Correlational analyses did provide some support for the hypothesis that arousal effects in the feedback situation may be detrimental to HR slowing. For all three groups, a more powerful initial values effect was observed for transfer periods than feedback in both skin conductance measures; i.e., for both median skin conductance and IQR of skin conductance, the negative correlation between resting level and magnitude of decrease was greater for transfer than feedback. This was the case for every group, session and measure except one (the IQR of skin conductance for the EMG group during session three). It is as though the initial values effect during feedback was obscured due to inconsistent decreases across subjects. During transfer, conversely, everyone relaxed sufficiently so that skin conductance activity declined more nearly to the level predicted by each subject's initial value.

The mean blood pressure readings taken before the session were 119.4 for systolic pressure and 66.4 for diastolic; the corresponding figures for post-session readings were 118.4 and 67.9. There were no differences between groups or between pre- and post-session values. Evidently the treatments had little effect on blood pressure, which might be expected in a young, normotensive subject sample.

DISCUSSION

The results of this experiment were quite straightforward. During feedback trials, HR and EMG activity both decreased in the two groups attempting to reduce physiological activity. The control group, actively tracking the display, failed to reduce HR substantially during feedback and showed slight elevations of EMG. For transfer periods the HR and EMG groups achieved reductions in HR and EMG comparable to feedback. The control group, also asked to slow HR during this period, now exhibited decreases in HR and EMG which were not significantly different from the other two groups. While the HR group breathed rather differently than the other two groups, this seemed to produce little decrement or enhancement of HR change.

With respect to the role of feedback, three conclusions seem apparent. First, feedback of HR or EMG with appropriate instructions did result in significant decrements in HR compared to a tracking control task. However, feedback did not produce greater changes than subsequent no-feedback conditions, and also failed to enhance the transfer performance of subjects receiving feedback relative to those who did not. Finally, the EMG feedback display failed to produce greater reductions in EMG and/or HR than the HR feedback -- the original hypothesis of the study. Subjects rather seemed to respond with a generalized nonspecific pattern, in which instructions and feedback regarding either HR or EMG led to comparable decreases in both systems.

The results are in accordance with Obrist's theory, in that HR decreases were linked with EMG decrements; conversely, HR and EMG remained unchanged while the control group tracked the display. In a similar vein, these data are also consonant with Brener's notion (1975) of a generalized trophotropic response. That is, subjects instructed to reduce any physiological activity are hypothesized to respond with a generalized, non-specific reduction in all somatomotor and central systems; the converse would be true for instructed increases in any physiological system. With respect to the present data, the theory helps to explain the result that HR and EMG changes were both similar whether subjects were instructed to decrease HR or EMG. Brener (1975), in fact, cites a feedback study he performed in which increases and decreases in EMG were a prime response to instructions to increase and decrease HR. He further found a strong relationship between the presentation of a HR feedback display and pronounced respiratory changes, a result also consistent with the present data; thus, changes in EMG and respiration may be part of a broad pattern of responding which is called into play when HR instructions and/or feedback are presented.

With respect to the EMG feedback, the original prediction that it would lead to enhanced HR slowing was not borne out. In retrospect,

it seems likely that the same factors which Lang (1975) hypothesized to inhibit HR feedback performance -- the demands of monitoring the display, processing the information, etc. -- may have also interfered with EMG reductions in the same manner. This is consistent with the correlational data for skin conductance in which correlations of initial values with change were lower for feedback than transfer in the EMG group as well as the HR group. A study by Alexander, French, and Goodman (1975) provides support for this interpretation. They presented subjects with either visual or auditory EMG feedback, and found that only auditory feedback was effective; visual feedback was no better than a control group. It is possible that such a problem with visual EMG feedback would be specific to the frontalis only, as that site is in close proximity to the eyes; other sites, however, have not been tested. At present, it seems possible that either or both of the two factors -- non-specific sympathetic arousal or detrimental effects of visual EMG feedback -- could have contributed to the failure of the EMG group to achieve more substantial reductions in EMG or HR.

The results from this study invited two options. First, further search could be made for ways of optimizing feedback, as by presenting other EMG sites, using multiple sites simultaneously or in combination, or trying to combine HR and EMG feedback in some manner. All such approaches, however, seem vulnerable to the problem mentioned above, that factors inherent in the feedback situation produce sufficient sympathetic activation to inhibit any marked decrements in physiological activity.

Accordingly, a second strategy is to forego feedback altogether and search for other approaches which might reduce arousal. One such group of techniques which come readily to mind might be termed cognitive approaches as they rely largely on specific instructions for their effects. Examples of such methods include Jacobson's progressive relaxation (Jacobson, 1938) and autogenic training (Schultz and Luthe, 1969).

In the last few years, reports have appeared of the use of Eastern meditation practices to lower metabolic levels. Wallace (1970) first reported decreased physiological activity in college students who had practiced transcendental meditation at least six months; he mentioned decreases in heart rate of about five beats per minute. These results were replicated and extended by Wallace, Benson, and Wilson (1971) and Wallace and Benson (1972).

More recently, Benson has developed a "secularized" version of transcendental meditation with which he has performed prospective studies on normal samples. Although the technique is not exactly an analog of transcendental meditation, many of its features are similar: the subject is instructed to sit quietly in a comfortable position, relax thoroughly, maintain a passive attitude, and keep the mind completely blank by silently repeating the word "one" each time exhalation occurs. Using this

technique, given subjects achieved decrements in physiological activity comparable to those observed in practitioners of transcendental meditation (Beary and Benson, 1974). Because this method is simple, easily and quickly learned, and readily adaptable to an experimental format, it seemed to be an ideal model to use in a laboratory comparison of biofeedback and a cognitive approach as methods of inducing a lowered HR. Accordingly, Experiment II was carried out as a direct test of the relative efficacy of the two methods.

EXPERIMENT II

METHOD

Subjects. Twenty young males recruited from campus bulletin boards served as subjects. Each person was paid \$10.00 for participating in the experiment. The subjects were carefully screened in a short interview for any history of cardiovascular disease, medications, drug usage, or meditation practice.

Apparatus. The apparatus was exactly identical to Experiment I. Appropriate changes were made to the computer software to present the meditation displays and instructions. The same physiological measures were recorded as in Experiment I.

Design. The design involved ten subjects in each of two groups. Each group was run for three sessions. The first two sessions for the HR feedback group were identical to the feedback sessions of Experiment I, with the vertical target line set so that 50% of the resting (baseline) distribution of heart beats were reinforced. Session three involved a 15-minute period during which the subjects were instructed to slow HR continuously without feedback; three-minute rest periods preceded and followed this extended task interval.

The patterning and sequencing of tasks for the meditation group was identical to that of the HR group, except that meditation instructions (described below) were substituted for HR feedback or transfer instructions. The meditation task was exactly the same for the periods corresponding to feedback and transfer, except that the scoreboard was presented following "transfer." During session three meditators were told to follow the meditation instructions for the entire 15 minutes, with an initial and three-minute final base as for the HR group. (The designation "meditation" is adopted for brevity and convenience, and does not imply equivalence to transcendental or other established forms of meditation.)

Procedure. The procedure for HR feedback subjects for the first two sessions followed the identical feedback-rest-transfer-rest trial pattern of Experiment I. Meditation subjects followed the same pattern, but for the task periods were given instructions very similar to those described by Beary and Benson (1974). Briefly, the subjects were told to sit quietly in the chair, close their eyes, relax completely from the toes upward, maintain a passive, relaxed attitude, and say the word "one" silently each time exhalation occurred. A passive attitude was emphasized throughout. The subjects were instructed to let their minds be completely blank during the task; when distracting thoughts occurred they were not to be forced out, but rather allowed to slip away as the subject maintained concentration on saying the word "one." Similarly, respiration was not to be paced, but allowed to occur naturally and passively.

Session three was somewhat different for both groups. For both, the task consisted entirely of one 15-minute period during which no feedback, scoreboard, or other information was presented. A three-minute base period was included before and after the task period. Subjects in the HR group were told to slow HR for 15 minutes; meditation subjects were instructed to carry out the procedure just as they had in the first two sessions.

Data reduction and measurement. The data reduction was almost identical to Experiment I. Session three was arbitrarily divided into five measurement blocks of three minutes each; this allowed a more refined look at temporal trends within the session, and also facilitated comparisons with the five trials of earlier sessions.

RESULTS

As in Experiment I, none of the scores for initial baseline periods differed on any session or variable; initial level differences were therefore not a factor in these analyses.

The HR changes for feedback periods of sessions one and two are presented in Figure 5; the results for the HR and EMG groups from Experiment I are also presented for comparison. Meditation clearly led to substantially greater slowing than feedback ($F=4.66$, $p<.05$), and was also slightly better (though not significantly) than either of the two groups from the previous experiment. Meditation also prompted greater slowing during the transfer period, when HR subjects were attempting to slow cardiac rate without feedback. The magnitude of the difference was comparable to that observed during feedback ($F=6.22$, $p<.025$).

The EMG results failed to parallel HR as closely as in Experiment I.

During feedback periods greater reductions in EMG occurred for the meditation subjects than for those in the HR group. Figure 6, plotting change across trials, shows that reductions in EMG by meditation subjects were more consistent and did not fluctuate from trial to trial as much as the EMG of the HR group ($F=3.10$, $p<.10$). Unlike the results for feedback, the significant difference in HR between the two groups for transfer periods was not mirrored in the EMG data: the two groups both reduced EMG levels and the difference between them was not reliable.

Respiration results for the HR group were similar to those for Experiment I: HR subjects breathed more slowly, more deeply, and more variably during work than baseline periods. Meditation subjects, conversely, were remarkable for their stability. Figure 7, e.g., shows the results for changes in respiratory total period ($F=4.61$, $p<.05$). HR subjects also increased their depth of breathing relative to the initial rest, while those in the meditation group maintained their respiration amplitude ($F=5.55$, $p<.05$). The variability of both respiration amplitude and rate were also increased for subjects in the HR group. Similar patterns of respiration changes were observed for transfer, with the effects somewhat less strong due to increased variance.

In general, the skin conductance data failed to yield significant differences between the groups, although greater decrements in skin conductance level were observed in the meditation groups during the task periods. Significantly lower skin conductance levels were found for the meditation subjects during the post-session resting period. ($F=5.48$, $p<.05$); since the two groups did not differ on the pre-session baseline, this must reflect a greater decline in skin conductance levels over the course of the session by meditation subjects.

The data for the third, 15-minute session showed that subjects in the HR group achieved only minimal decreases in rate, while meditation subjects exhibited a steadily decreasing rate over time with decrements of 130 milliseconds during the last six minutes ($F=20.64$, $p<.001$). Unlike the earlier sessions, the groups were not differentiated by the EMG results; however, respiration changes were similar to those seen in the first two sessions, with stable values for meditation subjects contrasting with the greater alterations and variability of the HR group. Skin conductance in both groups declined over trials, but did not differentiate the groups.

DISCUSSION

To summarize the results, a group given a specific set of cognitive instructions proved superior at HR slowing to a group provided with HR feedback, and this disparity was even more marked during a final session

in which both groups performed without feedback. The meditation analog group displayed consistent stability in respiratory period and amplitude, while the HR group increased respiratory activity considerably during the task periods. Meditation subjects also lowered EMG and skin conductance levels more during the first two sessions, although these effects were only marginally significant for skin conductance.

The fact that meditation subjects in Experiment II were not significantly better than HR or EMG subjects from Experiment I suggests that over a series of experiments, meditation might not prove to be clearly superior to HR feedback in generating lowered states of arousal; however, it would appear to be at least equal to feedback. In either case, the results of these experiments present obvious implications for clinical practice. It appears that feedback, of HR at least, is not the best technique for generating maximal arousal reduction; if inherent characteristics of the feedback situation per se are responsible for this deficit, the same conclusion may apply to other organ systems as well. For example, White and Alexander (1976) have reported that self-induced muscle relaxation was as effective as frontalis feedback in reducing EMG activity and reported headache activity in headache patients.

For clinical use, cognitive techniques are also preferable to feedback for several other reasons: they are easy to administer, usually easy to learn, require no sophisticated and expensive apparatus, and -- because the technique is the same no matter where it is performed -- necessitate no assumptions or concerns about the transfer of performance from laboratory to extra-laboratory sessions. Thus, should cognitive techniques ultimately prove to be no better than equal to biofeedback in generating arousal reduction, there would still be compelling reasons to prefer their use clinically.

It is not yet known whether the meditation analog used in this study is a particularly powerful means of reducing activation, or whether other cognitive techniques such as progressive relaxation, autogenic training, etc. would be equally or more successful; direct comparisons of these various approaches should resolve this question. In any event, the results of the experiments reported here, together with other related findings (e.g., White and Alexander, 1976), suggest that clinicians should carefully explore simpler and less expensive techniques before settling on biofeedback as a treatment of choice where the reduction of arousal is a therapeutic goal.

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FOOTNOTES

¹This research was conducted while the author was a graduate student at the University of Wisconsin-Madison.

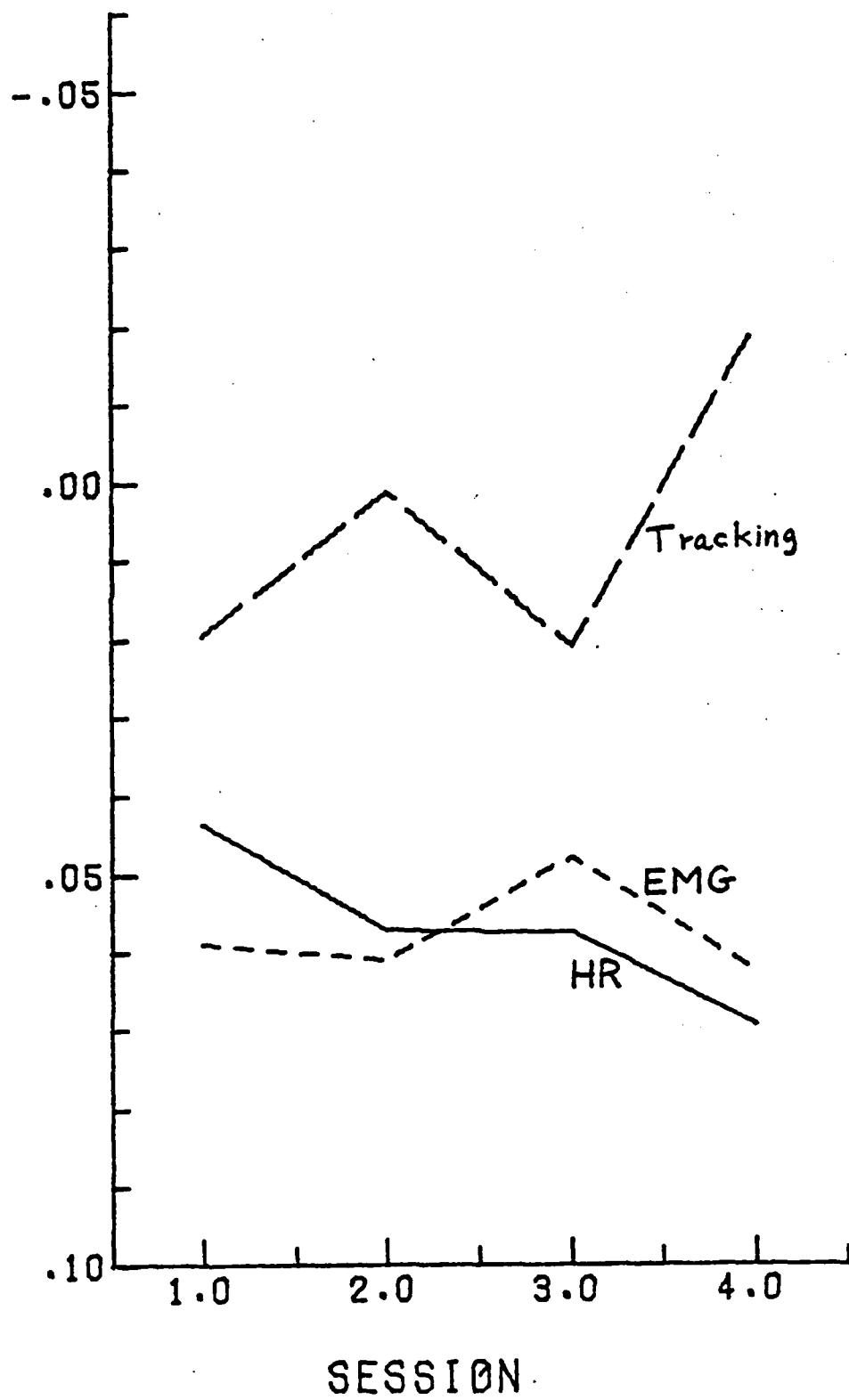
²The nature of the study was thoroughly explained to potential subjects in the initial interview. All subjects signed a consent form which detailed the procedure and indicated that subjects were free to withdraw from the experiment at any time.

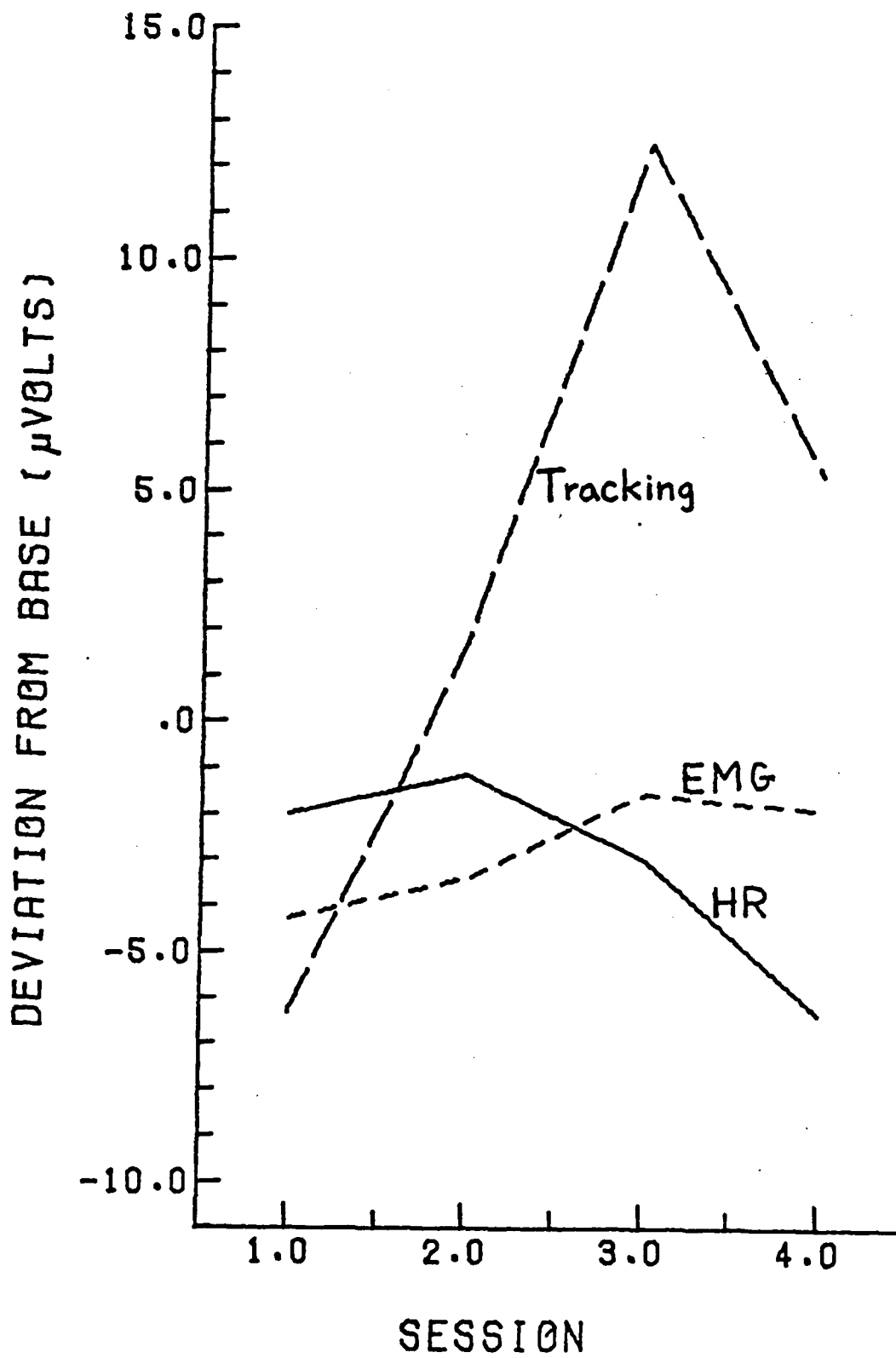
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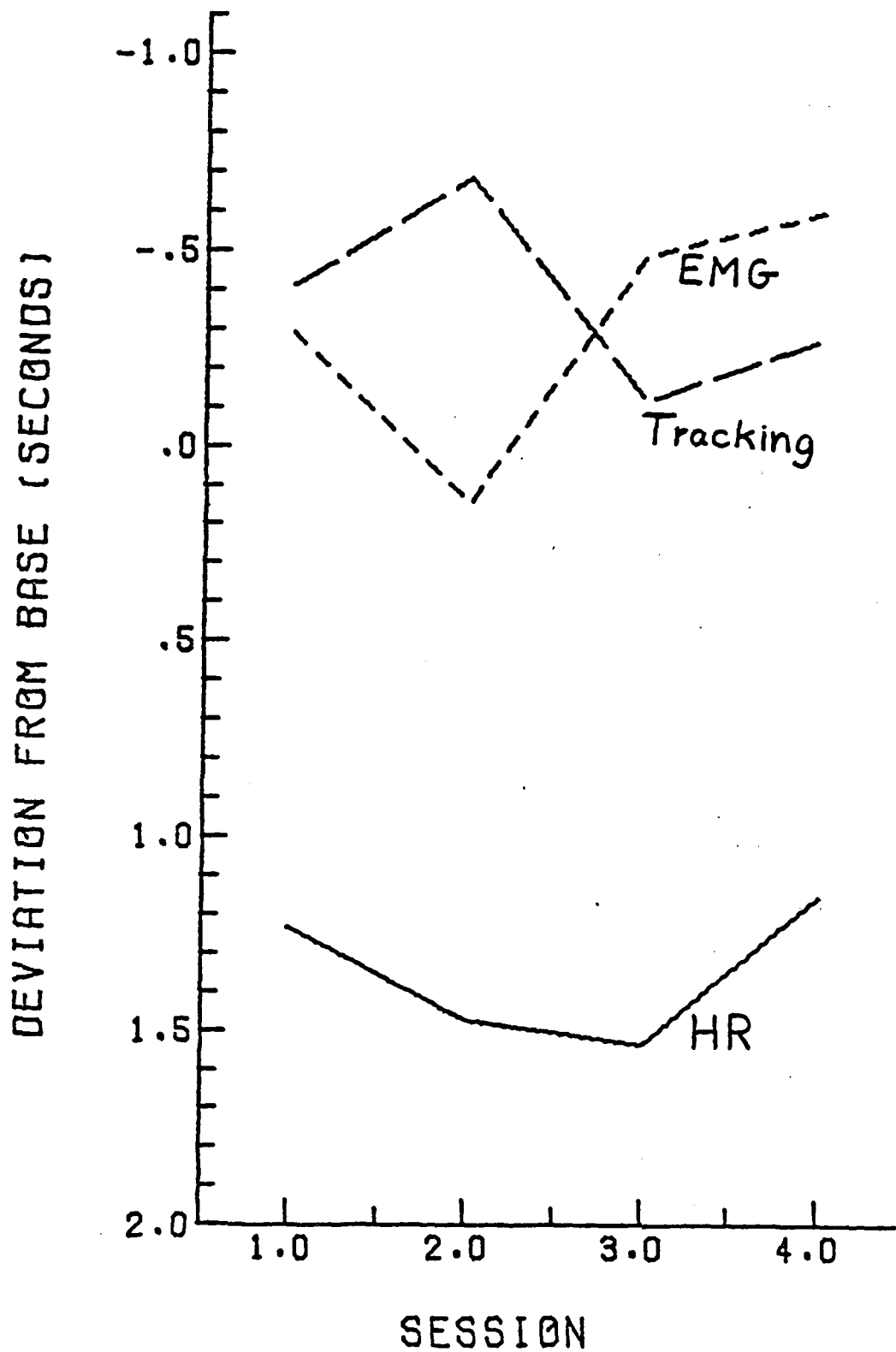
- Figure 1 - A diagrammatic representation of the feedback display at the moment of reinforcement, showing the horizontal feedback line and the vertical target line.
- Figure 2 - Change in median heart rate in seconds for feedback periods.
- Figure 3 - Change in median EMG in microvolts for feedback periods.
- Figure 4 - Change in respiratory total period in seconds for feedback periods.
- Figure 5 - Change in median heart rate in seconds for feedback periods of Experiment II, sessions 1 and 2.
- Figure 6 - Change in median EMG in microvolts for feedback periods of Experiment II, sessions 1 and 2.
- Figure 7 - Change in respiratory total period in seconds for feedback periods of Experiment II, sessions 1 and 2.
- Figure 8 - Change in median heart rate in seconds for Experiment II, session 3.

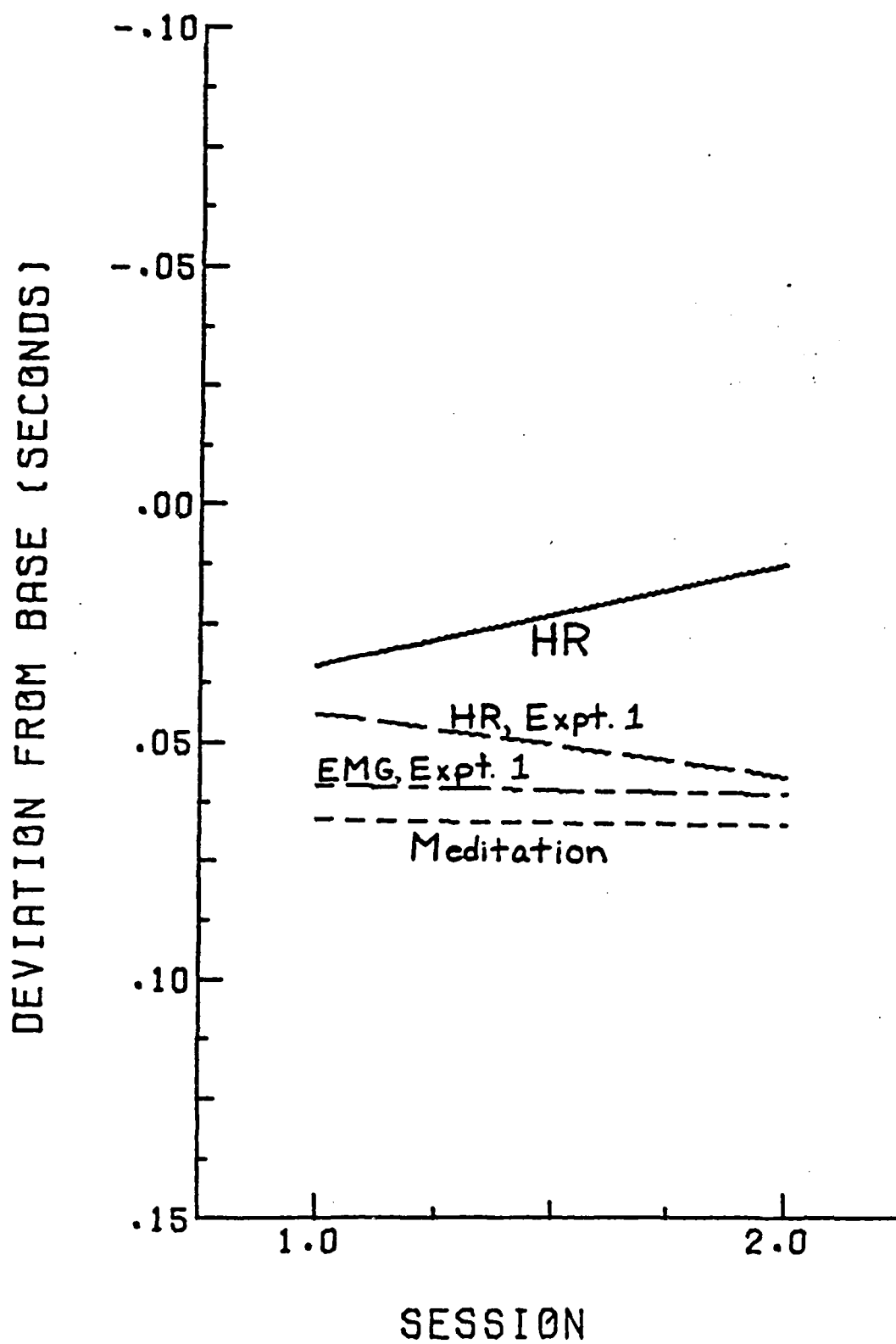
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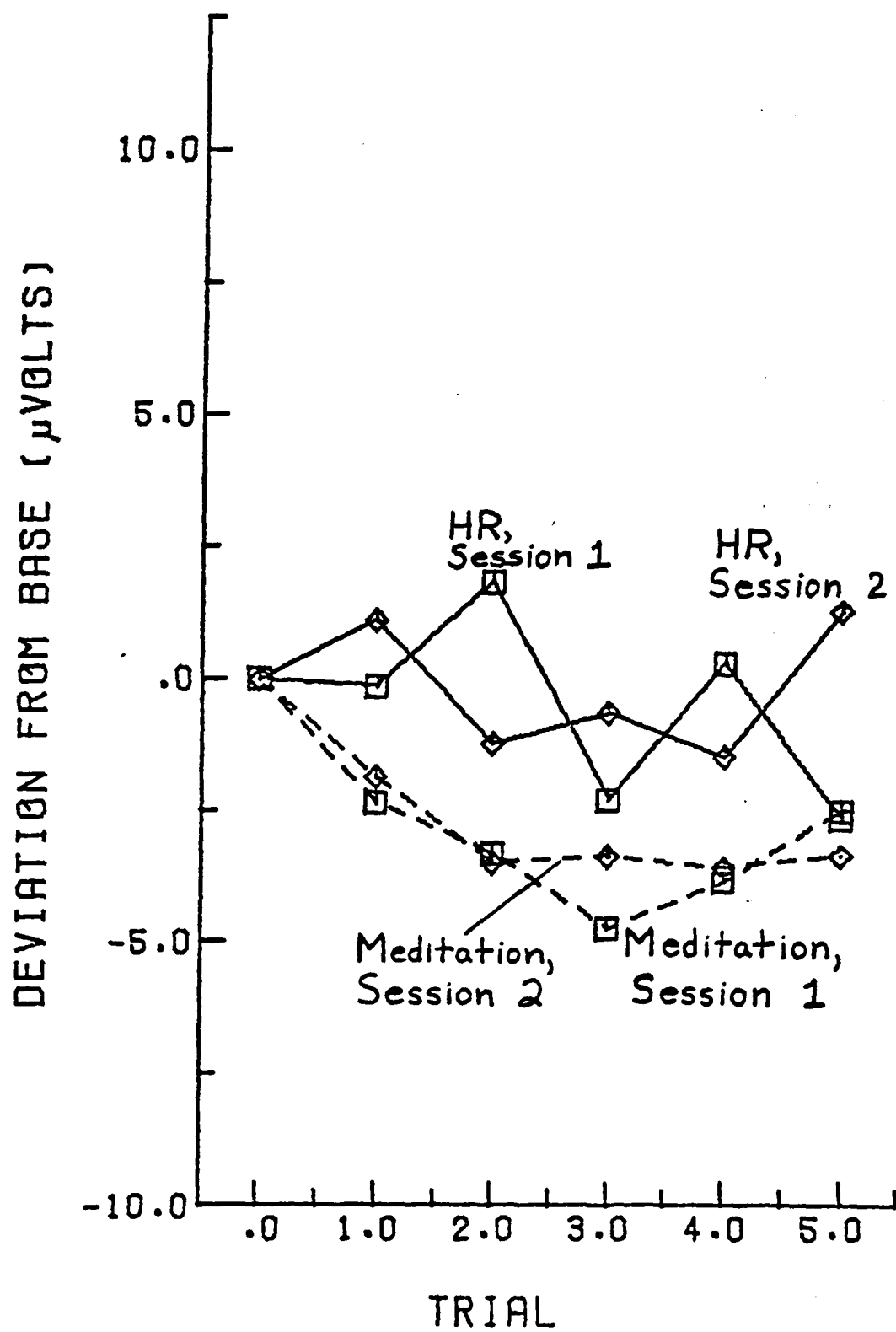
DEVIATION FROM BASE (SECONDS)

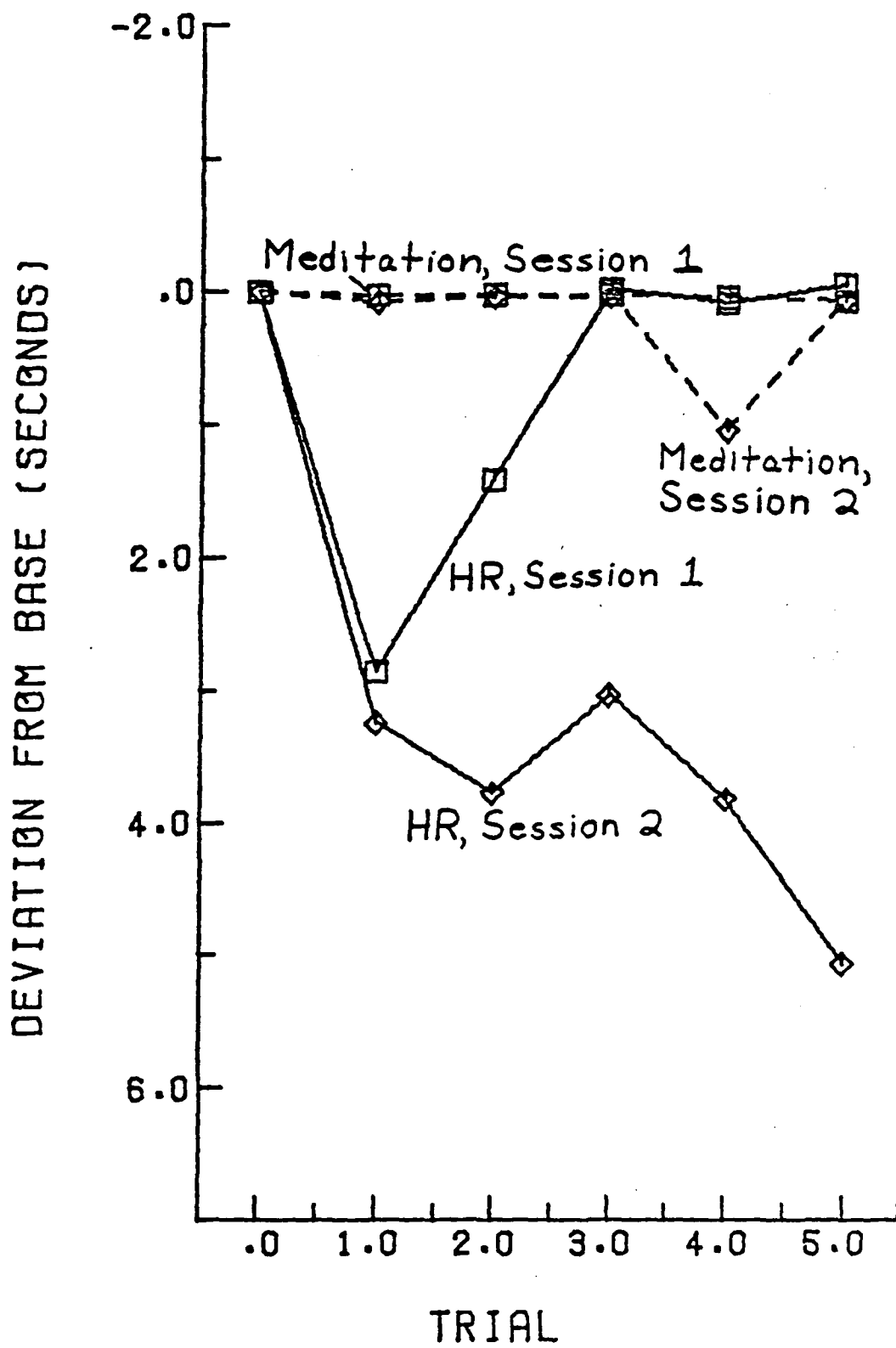




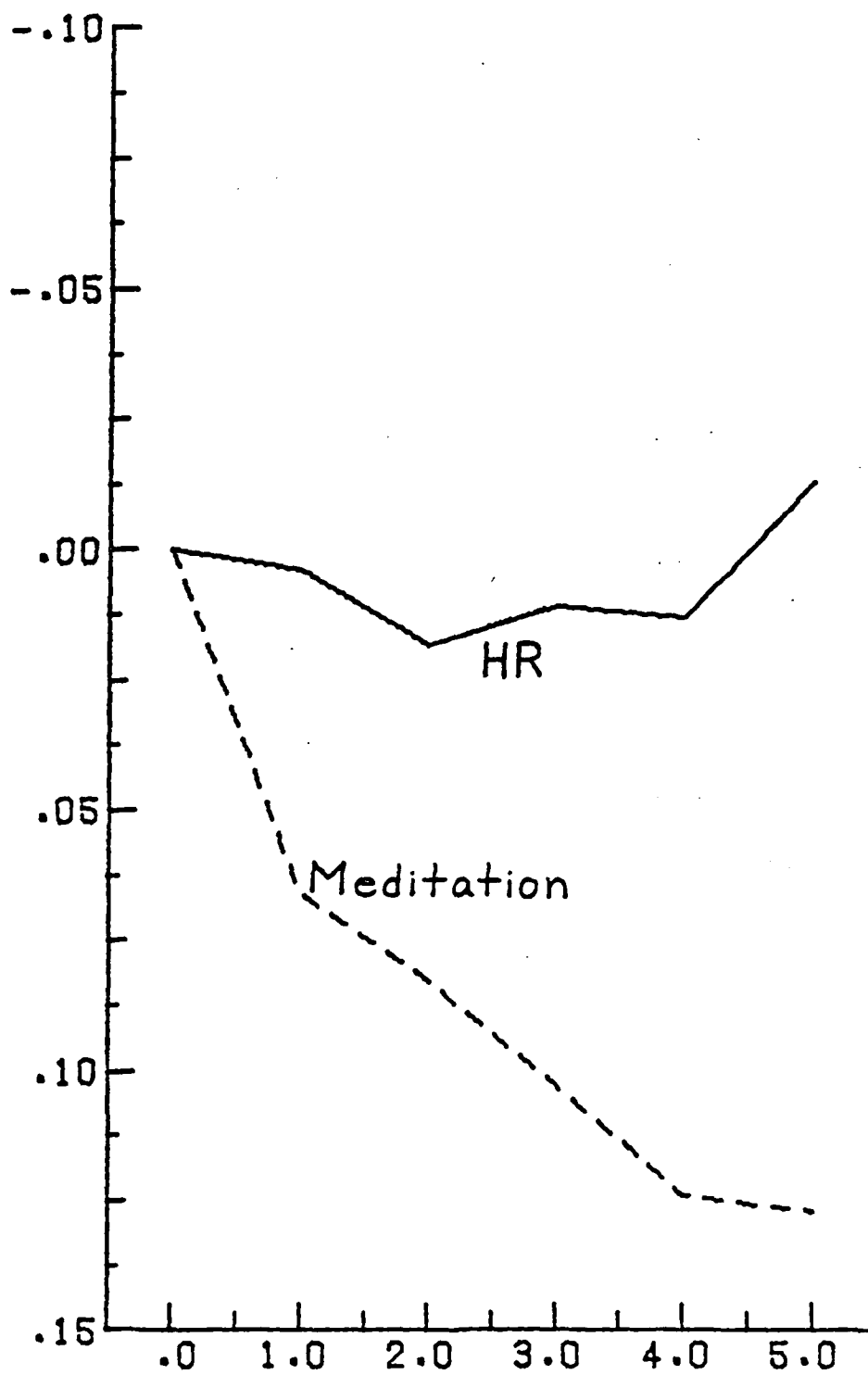








DEVIATION FROM BASE (SECONDS)



TRIAL

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TRACKING DOWN THE IDEAL MILITARY PHYSICIAN:
PRELIMINARY PROPOSALS FOR A LONGITUDINAL STUDY AT USUHS

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Each year more than 40,000 individuals apply for entrance to the nation's 116 medical schools, hoping to be among that "select" one-third of the applicant population that is ultimately successful in gaining admission. From an applicant's perspective, the process is competitive and arduous--an uphill battle for survival where the losers outnumber the winners twofold. To many applicants, it is a frustrating, fatiguing, and anxiety-ridden ordeal. But it is an equally frustrating, fatiguing, and arduous ordeal for the medical schools. Initially, they have to deal with the avalanche of applications that inundate their admissions offices annually, in numbers exceeding seven times the total applicant population, as each applicant applies to an average of seven plus medical schools. Naturally, this represents a heavy drain on the resources of these schools in terms of time, staff, and money. More importantly, however, the schools also have to cope with the uncertain and difficult task of selecting entrants. It is "uncertain" and "difficult" because, despite years of research, medical schools have been unable to delineate those factors which are reliable determinants, or predictors, of the successful physician. (Rhoads, et al., 1974, p. 1119).

As a consequence, schools have adopted other criteria. The common practice today is to select matriculants on the basis of who will best survive the academic rigors of the basic science curriculum. This approach, however, is not without problems or dangers. A substantial number of medical students who excel in the basic science portion of the curriculum do not excel in the clinical portion, and vice versa (Rhoads, et al., 1974). Furthermore, there is no empirical evidence to support the supposition that high-achieving students in the first two years of medical school do, in fact, make the best physicians.

Persons both in and outside of medical academia are aware of the problems inherent in existing admissions procedures, and are bringing to bear marked pressure for orderly change (Funkenstein, 1970, p. 497).

Schools, professional organizations, and scientific groups are responding affirmatively by looking for ways to ascertain the validity and reliability of selection criteria and techniques. USUHS has opted to be among the pioneers in this work, and is presently formulating plans for a long-term study to validate and/or improve its own unique admissions process--"unique" because USU is concerned not only with selecting persons for a career in medicine in the generally applied sense, but rather with identifying persons who will become good military physicians.

The University's research plan is ambitiously comprehensive but conceptually simplistic. It is patterned after the methods of Silvern (1972), Chestnut (1965), Tyler (1949), and others. In order to arrive at valid entering characteristics, it involves researching the problem in terms of its totality, starting with the desired end product (the successful military physician at the peak of his/her career), and sequentially tracing this "end product" back through the various stages of professional practice and training, commencing with entry into medical school. It involves looking at the problem as though it were a system composed of specialized structures and subfunctions forming an integrated whole. The method recognizes that to achieve system optimization there must be maximum compatibility of its parts. An all-encompassing undertaking, it will impact not only on admissions practices but on several other areas as well, to include both medical and graduate medical education, in-service training programs, and career management activities.

At this point there is no specificity of design, but some consideration has been given to the problem of how one might best track down and evaluate the characteristics of the ideal military physician, which is the final subsystem, or end product, of the process. It is felt that this could be done viably by first of all arriving at criteria that would define and isolate the so-called "ideal." This, it is believed could be accomplished by formulating a list of descriptive factors which are assumed to be, collectively, a characterization of "ultimate" success in the medical corps of the Uniformed Services. Promotions, productivity, efficiency ratings, certification, assignments, and expertise would obviously be among the many factors considered in preparing such a list. Naturally, input from a variety of sources would be solicited to refine and validate the criteria. For example, recognized leaders in military medicine would be consulted, as would leaders in the related health fields.

After the list is validated, the next step would be to locate an adequate sample of physicians who appear to exemplify the developed model. The identification of these individuals would be carried out by a panel of experts based on strict application of the criteria.

The selected sample of physicians would then be contacted to request their participation in the investigation, and those volunteering would be studied over an extended period of time using participant-observer and informant-interviewing techniques. Properly planned and conducted, observation and interviewing can provide not only for learning about individuals' perceptions of statuses and norms, but can also reveal affective content, philosophy, and personal feelings--all of which can be used as the basis for describing and analyzing personality and attributes (Wolcott, 1971, pp. 352-353).

To supplement this field work, subjects would be surveyed, using structured questionnaires, and tested with psychological inventories to obtain further impressions about their characters and values. Also, it would be necessary to consult people with whom the subjects deal professionally to uncover that aspect of the individuals under study.

All of this tediously amassed data would then have to be critically examined to arrive at personality profiles, to identify commonalities among the various profiles, and to prioritize attributes and personality factors according to their relative importance. Obviously, this phase of the endeavor will be crucial, since decisions made at this point will be delicate ones having a significant influence on all other subsystems investigated.

The mechanics for researching the other subsystems of the study, as indicated earlier, have not been conceptualized and, naturally enough, will take considerable time to develop and refine. For that matter, the entire project will be lengthy and involved. Nevertheless, if progress is to be made toward improving the admissions process, then a start has to be made somewhere. That start, logically, should be with the end product in mind as the objective for validation or improvement of process. Only in this systematic and inclusive way, is it going to be possible to answer the fundamental question of who is best suited for selection to USUHS.

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BEHAVIORAL TOXICOLOGICAL STUDIES OF
PESTICIDES IN LABORATORY RATS^{1 2}

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Behavioral testing procedures are still relatively new to the field of toxicology, but their use is rapidly growing. One of the principal reasons for their increasing popularity, and one which particularly bears on the Army's occupational health and safety programs, is that behavioral tests can often provide sensitive laboratory measures of low-level toxicity. While animals may appear to be normal after exposure to low concentrations of a potentially hazardous chemical, their performance in a given behavioral task may betray important changes in the way they perceive or operate in their environment.

~~Today,~~ I'd like to discuss some of the behavioral data we have collected with two pesticide compounds in laboratory rats. I believe both sets of data provide interesting, although very different, examples of how the sensitivity of behavioral tests can provide useful information about toxicity.

Before I begin, however, I'd like to review in a brief and probably oversimplified manner, the principal mechanism of action of these two pesticides. This is important because one of our principal interests is the relationship between the behavioral and biochemical effects of these compounds. This illustration (Figure 1) shows a cholinergic synapse, the junction between two neurons, where a nerve impulse, or action potential, is transmitted from one neuron to another. Acetylcholine (ACh), the neurotransmitter chemical in this case, is stored in vesicles and released into the synaptic space when an action potential arrives at the pre-synaptic end bulb. When the liberated acetylcholine combines with receptors in the post-synaptic membrane, an action potential is propagated in the second neuron, completing the transmission of the nerve impulse from the first to the second neuron.

Now in the normal state of affairs, an enzyme called acetylcholinesterase (AChE) is present in the synaptic space (Figure 2). Its function is to break down the transmitter, ACh, chemically; so that the system quickly reverts back to the pre-excited state. However,

organophosphorous and carbamate insecticides like the ones I'll discuss in a minute inhibit the activity of this enzyme (Figure 3) so that cholinergic synaptic transmission is not terminated as it normally should be. The result is that normal synaptic transmission of nerve impulses is altered to some degree (sometimes it is stimulated, sometimes depressed) with lethal consequences at high pesticide concentrations. Even at sub-lethal dosages, neural activity may still be sufficiently modified to produce behavioral changes, changes which could conceivably jeopardize the health and safety of people exposed to these pesticides.

In studying pesticide compounds in our laboratory at the toxicology division of the Army Environmental Hygiene Agency, we have used two rather broad behavioral screening tests. We feel these techniques are useful in that they provide sensitive yet economical measures of behavioral change. The first test measures spontaneous motor activity. The rats are placed into a darkened cylindrical chamber. Infra-red photobeams traverse the inside of the chamber at the level of the grid floor so that when the rat moves about, he trips the photo beams, automatically accumulating activity counts on a mechanical counter. The total count at the end of a 5-minute period is taken as the measure of spontaneous motor activity.

The second behavioral test we use provides a general measure of toxic effects on learned behavior, in a paradigm we call "rapid avoidance". Basically, it's a one-way avoidance situation, a procedure we modified from one described by Robert Clark some time ago. During the test, the animal is placed into a small darkened start box, a tone comes on, and we measure the time it takes for it to enter a larger lighted compartment. If the rat stays in the box for more than 20 seconds, it receives foot shock through the grid floor of the start box until it escapes to the safe side.

We train the animals in a single half-hour session the day before exposure to the test compound. On the next day, following a pre-exposure screening trial, the animals are injected and tested for avoidance in a single trial at a preselected interval following exposure.

In this next rather complicated illustration (Figure 4), I've summarized some of the results we have obtained with the carbamate insecticide Mobam*. All the data shown are from rats injected intraperitoneally 15 minutes before test. The dosage range shown here is relatively low,

* Mobam is a registered trademark of Mobil Oil Co., New York, NY, for 4-benzothienyl-N-methylcarbamate. Use of trademarked names does not imply endorsement by the US Army, but is used only to assist in identification of a specific product.

representing only about 1 to 6 percent of the median lethal dose. The upper portion illustrates the behavioral data and the lower portion the effects of Mobam on brain, plasma, and erythrocyte cholinesterase activity. Cholinesterase is the enzyme inhibited by these compounds, as I mentioned earlier. We can see a clear dose response function for all measures. It is interesting, though when looking at the behavioral data at the top part of the figure, that the slopes of the avoidance and motor activity functions are really quite different. Avoidance, measured here as the percentage of animals avoiding shock during the test trial, deteriorates rapidly between 2 and 3 mg/kg, while motor activity declines more gradually throughout the dose range explored. Notice, particularly, the differences we observed at the 2 mg/kg dosage. The avoidance scores of the group given that dose were very similar to those of the control animals given only the corn oil vehicle, but the motor activity of animals given the same dose was significantly depressed, about 70 percent of control group values.

It is also interesting to look at cholinesterase levels after the same treatment. At this dose, 2 mg/kg, we found significant inhibition of plasma and erythrocyte cholinesterase activity, but no significant changes in brain cholinesterase, which was about 90 percent of control levels. With a higher dose, 3 mg/kg, we did find significant brain cholinesterase depression and, as you can see in the upper portion of the figure, a significant, quite dramatic, avoidance impairment. Most of the animals given this dosage did not leave the start box until the shock came on. I should point out that neither of these dosages produced readily apparent signs of toxicity. Independent observers could not tell animals treated with these dosages from untreated controls.

Because the major change in avoidance performance seemed to occur between 2 and 3 mg/kg, we also looked at the effects of an intermediate dosage, 2.5 mg/kg. As the figure shows, most of the animals given that dose successfully avoided shock. However, the percentage score is probably a less sensitive measure of performance than the actual avoidance latencies because the individual avoidance latencies of the 2.5 mg/kg group showed a small but statistically significant increase over those of the control group. The brain cholinesterase levels of this group were also significantly depressed. There appears to be some correspondence, then, between the behavioral and biochemical effects of this compound. Doses which produce a significant depression in brain cholinesterase also significantly disrupt avoidance performance. Motor activity is significantly depressed at lower dose levels than avoidance, dose levels which still produce significant cholinesterase inhibition in the blood. It is tempting to speculate that these biochemical and behavioral data may be related. Perhaps central cholinesterase inhibition plays an important part in the effects of this compound on avoidance performance. Our follow-up work with Mobam has been consistent with this interpretation.

Of course, the idea that the behavioral and biochemical effects of cholinesterase inhibitors might be related is not particularly surprising, and it is certainly not new. However, I think it is interesting to observe that a pesticide compound like Mobam may affect behavior in different ways, that some behavioral effects may be more sensitive than others, and that these effects may be mediated by changes in central or peripheral cholinesterase activity to different degrees.

With this background, let me now turn to some of the effects we have found with the widely used organophosphate pesticide malathion. In our first study, we gave rats the avoidance training I described earlier, injected malathion i.p., and then tested avoidance performance 15 minutes, 1 hour, 4 hours, or 24 hours later. Each group consisted of ten male rats, about 300 grams in weight. After the test, we took 1 ml samples of blood by intracardiac puncture. The rats were then decapitated and the brains removed and frozen for cholinesterase analysis later. With this procedure, it was possible for us to obtain behavioral and cholinesterase data from the same animals.

The next illustration (Figure 5) summarizes the effects of malathion on avoidance performance. The dependent measure here is avoidance latency in log seconds. Higher latencies indicate impaired avoidance performance. As you can see, the principal effect on avoidance appears to occur at the 1 hour post-injection interval. The avoidance latencies of the 50, 100, and 150 mg/kg groups are significantly greater than those of the control group injected with corn oil. No significant effects were observed at the other three post-injection intervals. We observed mild muscle tremor in one of the animals given 150 mg/kg, the highest dosage, 1 hour after injection but the appearance of the other animals was not distinguishable from that of the controls. Thus, with malathion, too, we have observed behavioral changes in animals which appear otherwise normal.

You probably notice that the dose response function at 1 hour does not appear as a uniform increase in latency with dosage. The median latency of the 100 mg/kg group is somewhat lower than the next lower and next higher dosages, 50 and 150 mg/kg. While we were originally suspicious that this might simply be due to sampling error or some test artifact, the latency "dip" at midrange dosages has reappeared in subsequent replications of this study, and we now believe that the dose response function with respect to the effects of malathion on avoidance performance may well be bimodal at these low dosages. What biochemical factors might underlie this phenomenon is a matter of further investigation.

The cholinesterase data for the 60-minute injection-test interval groups, the groups in which we found the behavioral changes, are shown in Figure 6. Generally, we have fairly regular dose response functions

for all three cholinesterase measures, brain, plasma, and erythrocyte. As with the Mobam data, brain cholinesterase appears least sensitive and erythrocyte most sensitive to the effects of this compound, a fairly typical finding. The most important point I'd like to make with this illustration, however, concerns the cholinesterase activity of animals injected with 50 mg/kg. The median avoidance latency of these animals was 12 seconds compared to 1 second in the control group. Yet their cholinesterase levels are 90 percent of control groups or greater. Only with the higher dosage levels do we begin to observe significant cholinesterase depression. Putting the behavioral and biochemical data together, this suggests that low dosages of malathion may disrupt avoidance performance without significantly decreasing cholinesterase activity. In this case, behavioral change appears to be the most sensitive measure of toxicity.

The data in Figure 7, depicting cholinesterase activity at an earlier injection-test interval, 15 minutes, suggest further complications. Looking at the 150 mg/kg dose level, we see statistically significant depressions in both erythrocyte and brain cholinesterase activity. Yet, if you remember the behavioral data, this group showed normal avoidance performance. The median avoidance latency of these animals, was 1 second, identical to that of the control group. So while in the 60-minute groups, we had significant behavioral decrements with normal cholinesterase, now we see significant cholinesterase decrements accompanied by normal behavior. Clearly, with malathion, the behavioral-biochemical relationships are not as neat as they seem to be with Mobam.

The effects of malathion on spontaneous motor activity are also not as clearly defined as the Mobam data. In Figure 8 you see the very sensible dose response function we obtained with Mobam. As I pointed out before, statistically significant decrements in motor activity occurred at 2 mg/kg and higher. The malathion data, in Figure 9, represents a more complex picture. As others have reported, the effects of malathion on motor activity are highly variable. There is a suspicion of a bimodal effect similar to the one that appears in the avoidance data but even with the highest dosage, 150 mg/kg, the apparent depression in motor activity is not statistically significant. You may remember that with Mobam, we observed motor activity to be a more sensitive test than avoidance; with malathion the opposite appears to be the case. The difference illustrates the importance of employing more than one type of task in the assessment of behavioral toxicity.

I suppose if I were to summarize these studies with malathion, I would say that significant cholinesterase depression appears to be neither necessary nor sufficient for the appearance of some types of behavioral decrements following malathion exposure in rats.

Of course, one cannot say on the basis of these laboratory findings

alone whether malathion may modify human behavior without significantly decreasing clinical measures of cholinesterase activity, as appears to be the case in rats. If it does, however, potentially hazardous exposure levels may go unrecognized because the most widely accepted measure of toxicity following human malathion exposure currently is erythrocyte cholinesterase activity. At present, only minimal attention is given to the possibility of subtle behavioral changes.

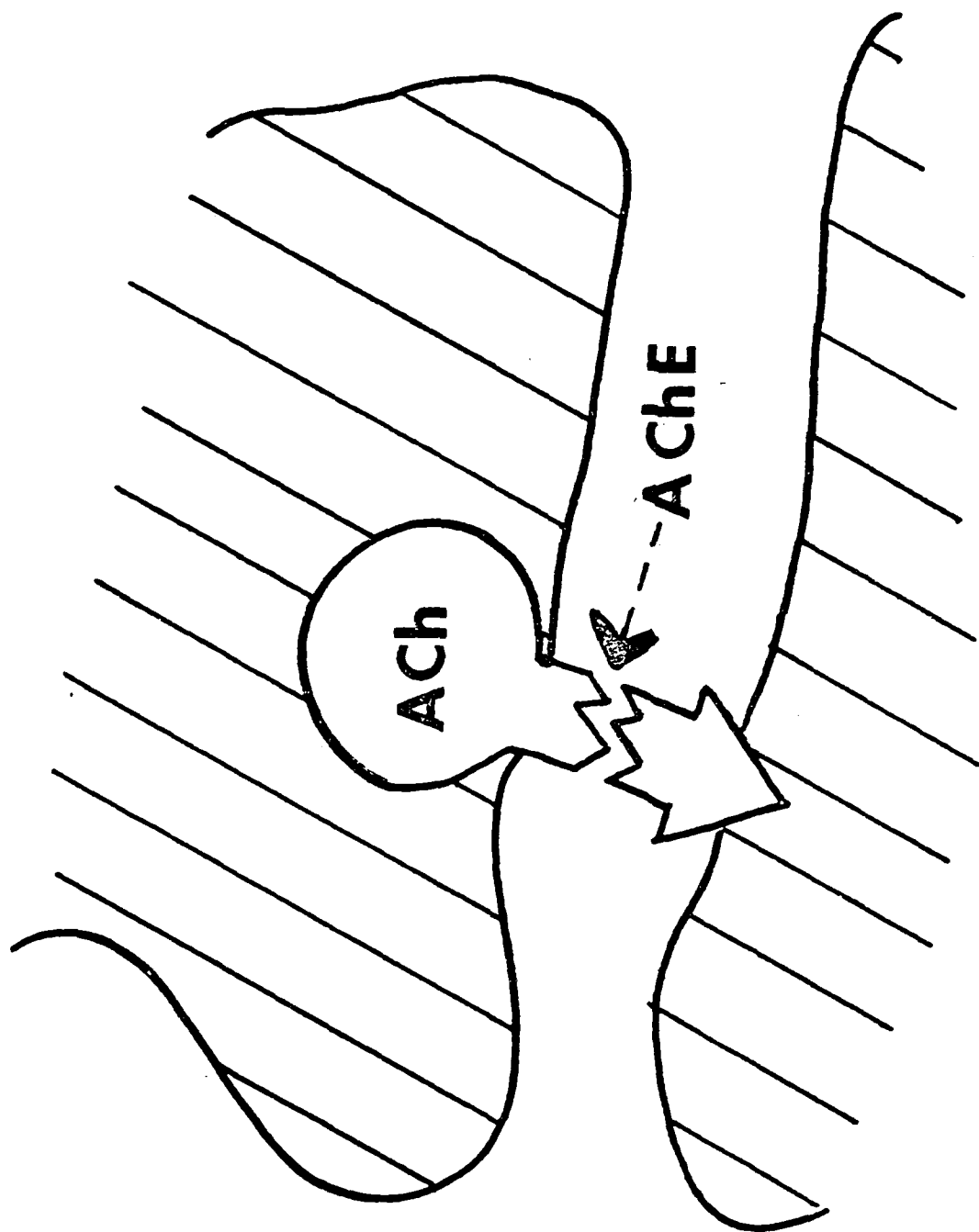
I mentioned earlier that we were particularly interested in the use of behavioral measures as sensitive toxicological tests. I believe the Mobam data illustrates how behavioral tests may help to investigate the interactions between central and peripheral cholinesterase inhibition in pesticide toxicity. The malathion work illustrates how behavioral tests may be sensitive to changes which might otherwise elude our detection. In both cases, I believe, behavioral tests have helped to improve our understanding or at least our appreciation of the possible effects of exposure to low levels of these pesticide compounds. As we move on, more thoroughly investigating and documenting effects like these, we can help to further demonstrate the contributions which behavioral testing procedures and experimental psychology in general can make to the biomedical sciences.

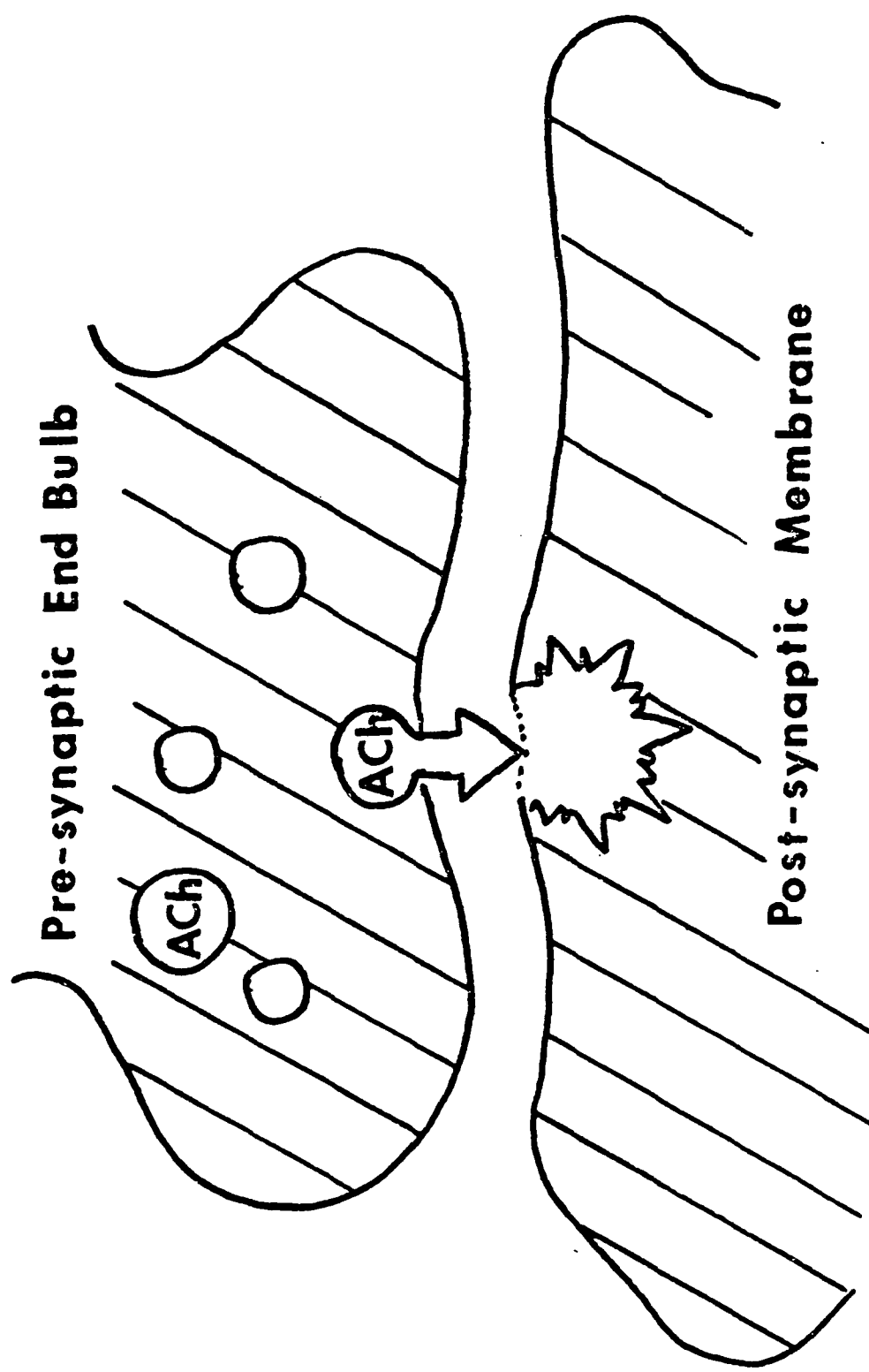
FOOTNOTES

¹The opinions or assertions contained herein are the private views of the author and are not to be construed as reflecting the views of the Department of the Army or the Department of Defense.

²The experiments reported here were conducted according to the "Guide for Care and Use of Laboratory Animals" (1972) as prepared by the Committee on Revision of the "Guide For Laboratory Animal Facilities and Care" of the Institute of Laboratory Animal resources, National Research Council.

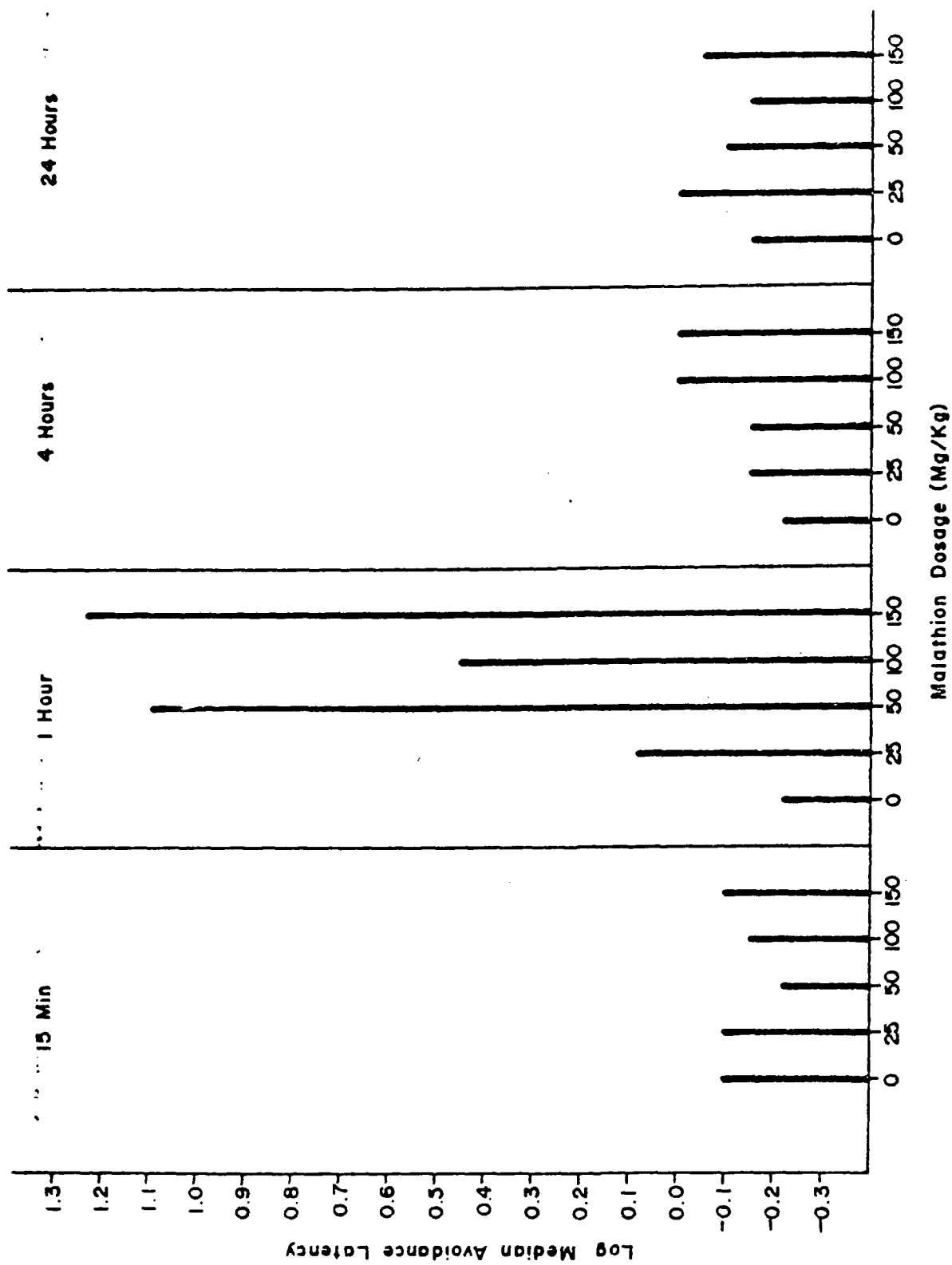
- FIGURE 1. Schematic diagram of cholinergic synapse. Acetylcholine (ACh) is released from vesicles in the pre-synaptic end bulb into the synaptic space.
- FIGURE 2. Acetylcholinesterase (AChE) is present in the synaptic space and terminates the action of ACh on the post-synaptic membrane.
- FIGURE 3. Organophosphorous and carbamate insecticides inhibit the function of AChE.
- FIGURE 4. The upper portion shows the percentage of mean control spontaneous motor activity (solid line, left ordinate) and percentage animals successfully avoiding shock (broken line, right ordinate) 15 minutes after injection as a function of Mobam dosage. The lower portion shows the percentage of mean control brain, plasma, and erythrocyte cholinesterase activity 15 minutes after injection as a function of Mobam dosage.
- FIGURE 5. Log median avoidance latencies (seconds) at various intervals following malathion injection. Groups designated 0 mg/kg received the corn oil vehicle only.
- FIGURE 6. Percentage mean control cholinesterase activity 60 minutes following malathion injection.
- FIGURE 7. Percentage mean control cholinesterase activity 15 minutes following malathion injection.
- FIGURE 8. Percentage mean control spontaneous motor activity 15 minutes following Mobam injection.
- FIGURE 9. Percentage mean control spontaneous motor activity 60 minutes following malathion injection.

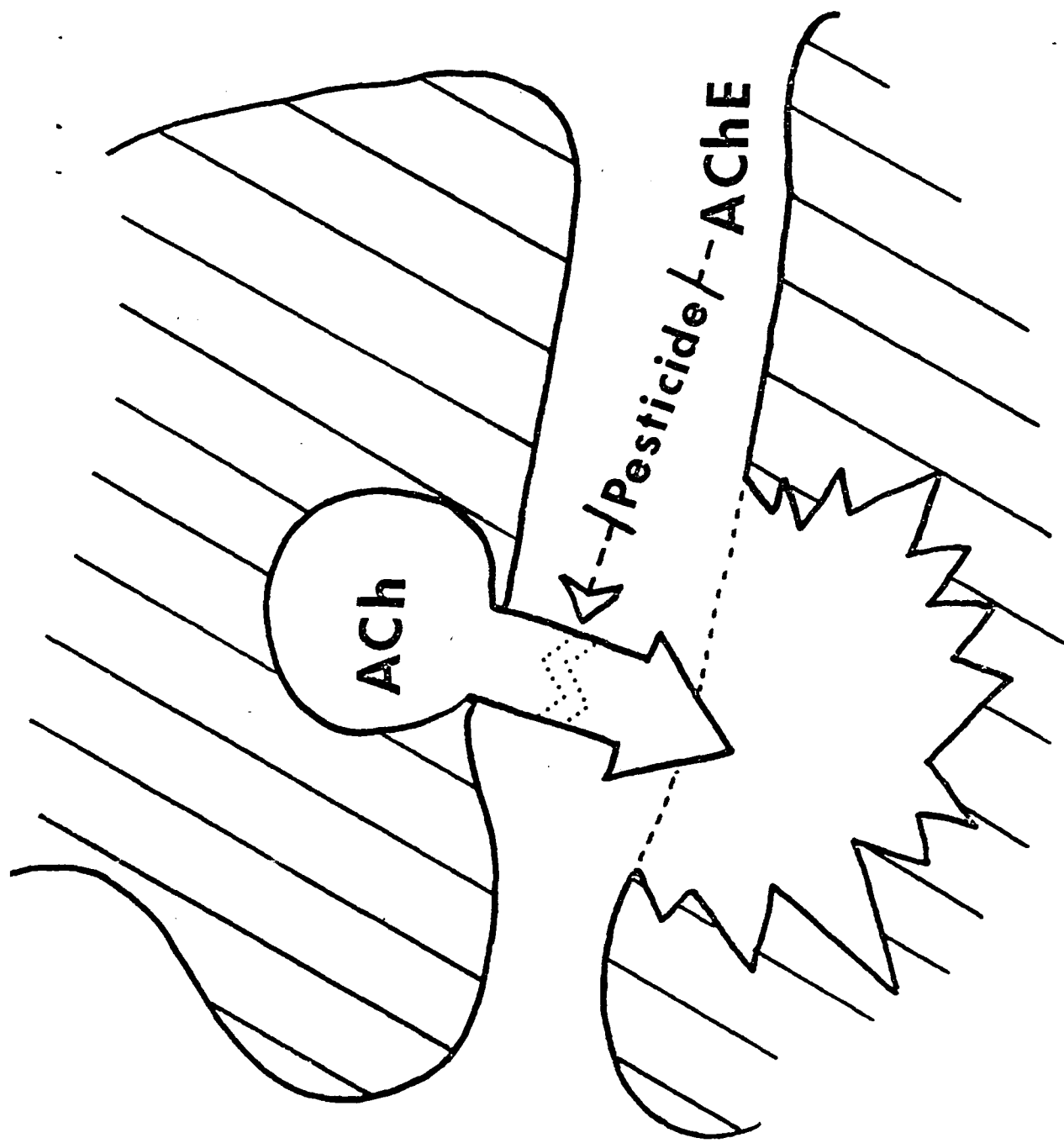


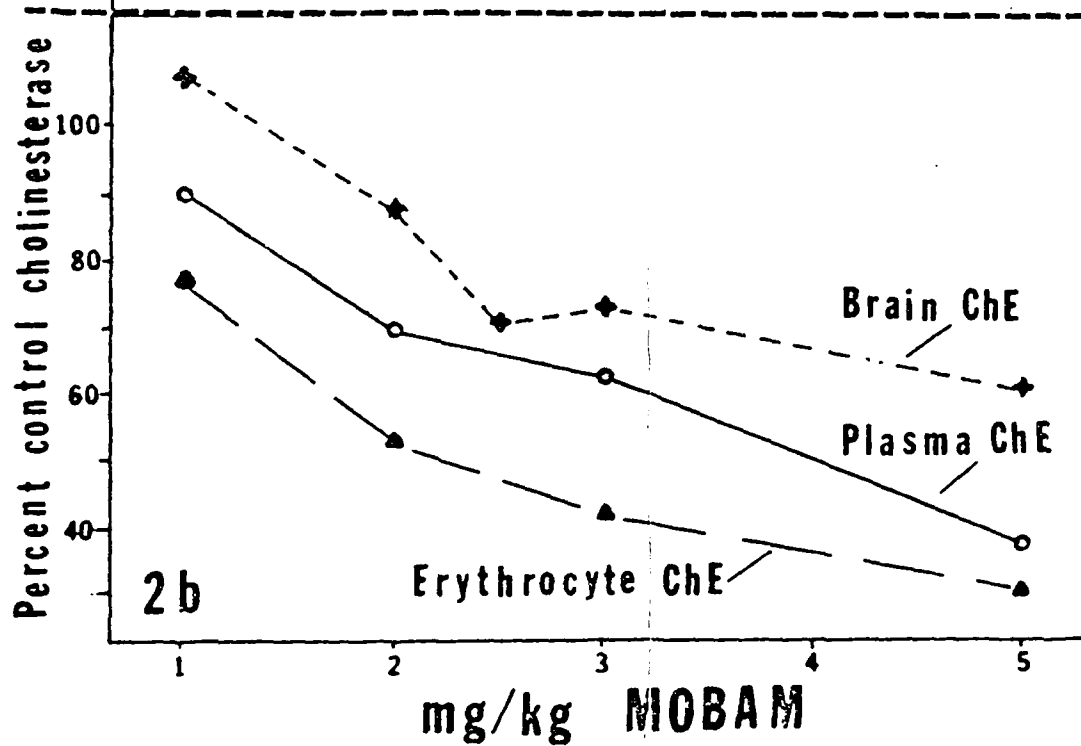
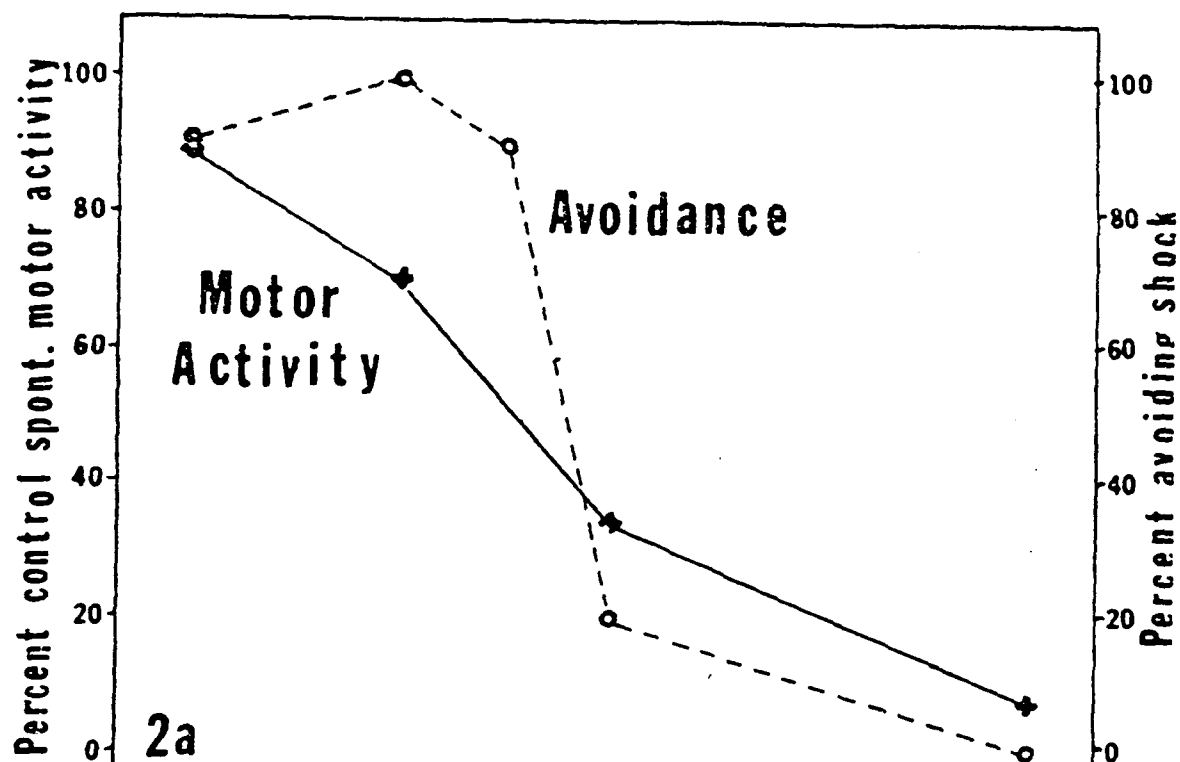


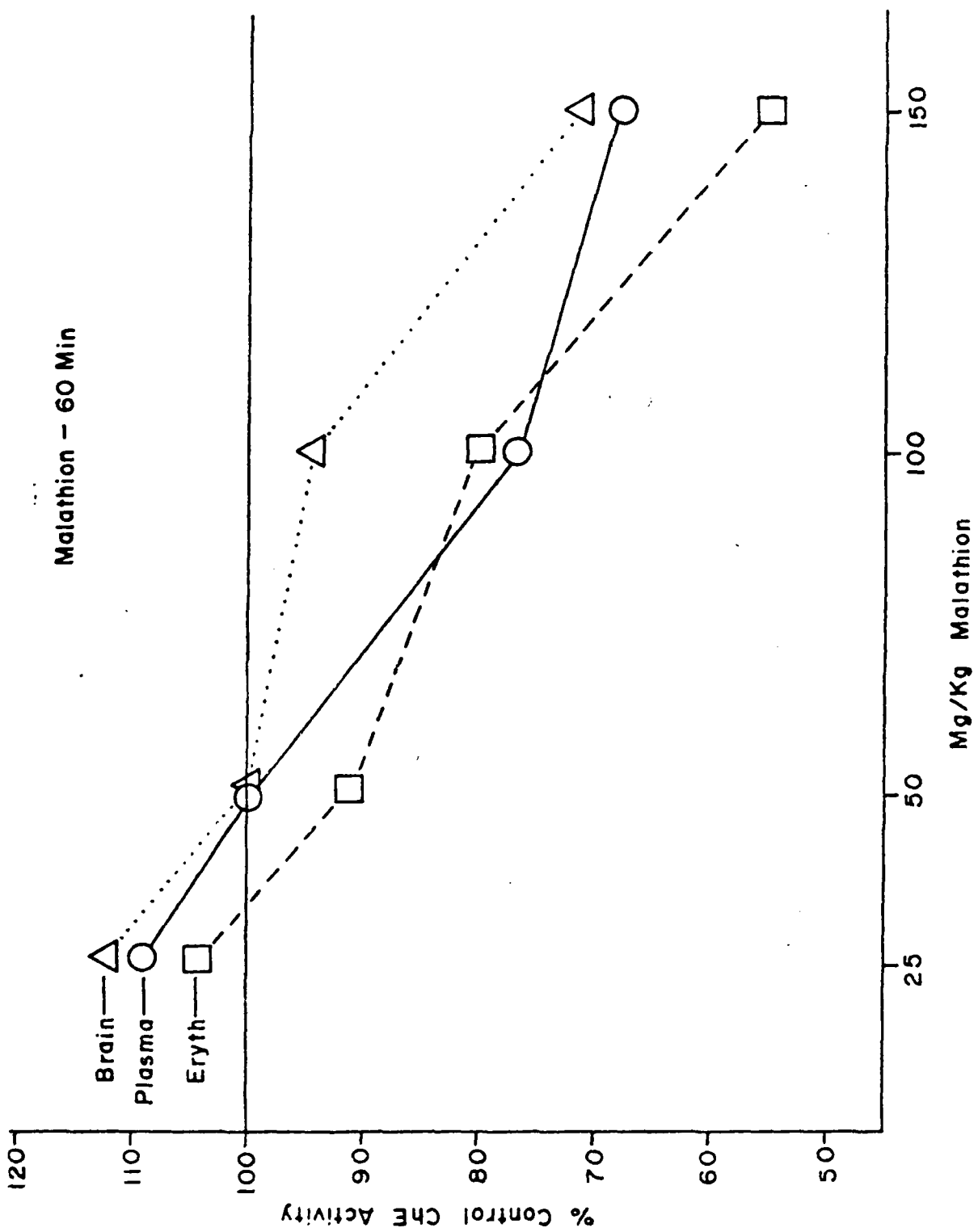
Pre-synaptic End Bulb

Post-synaptic Membrane

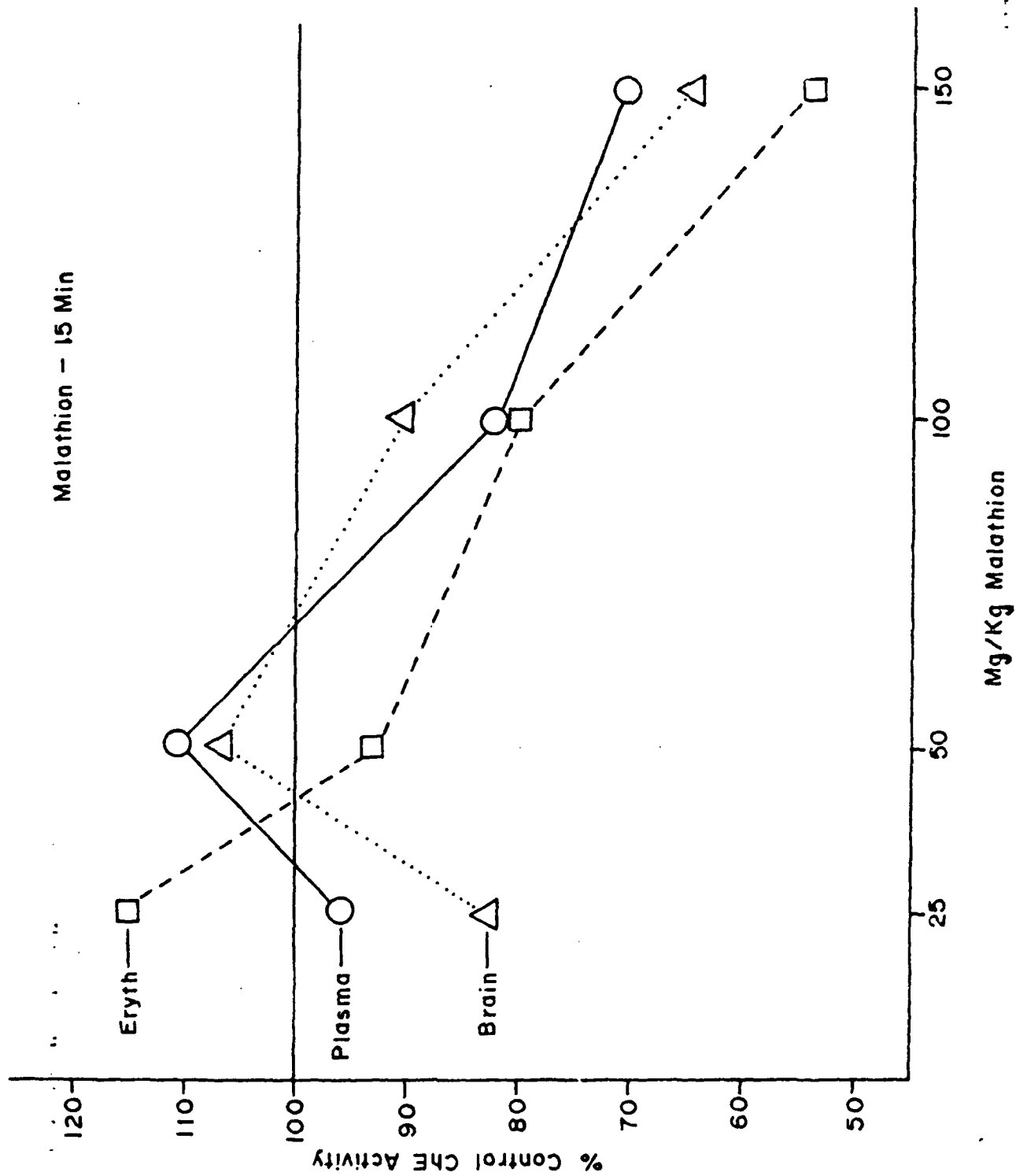


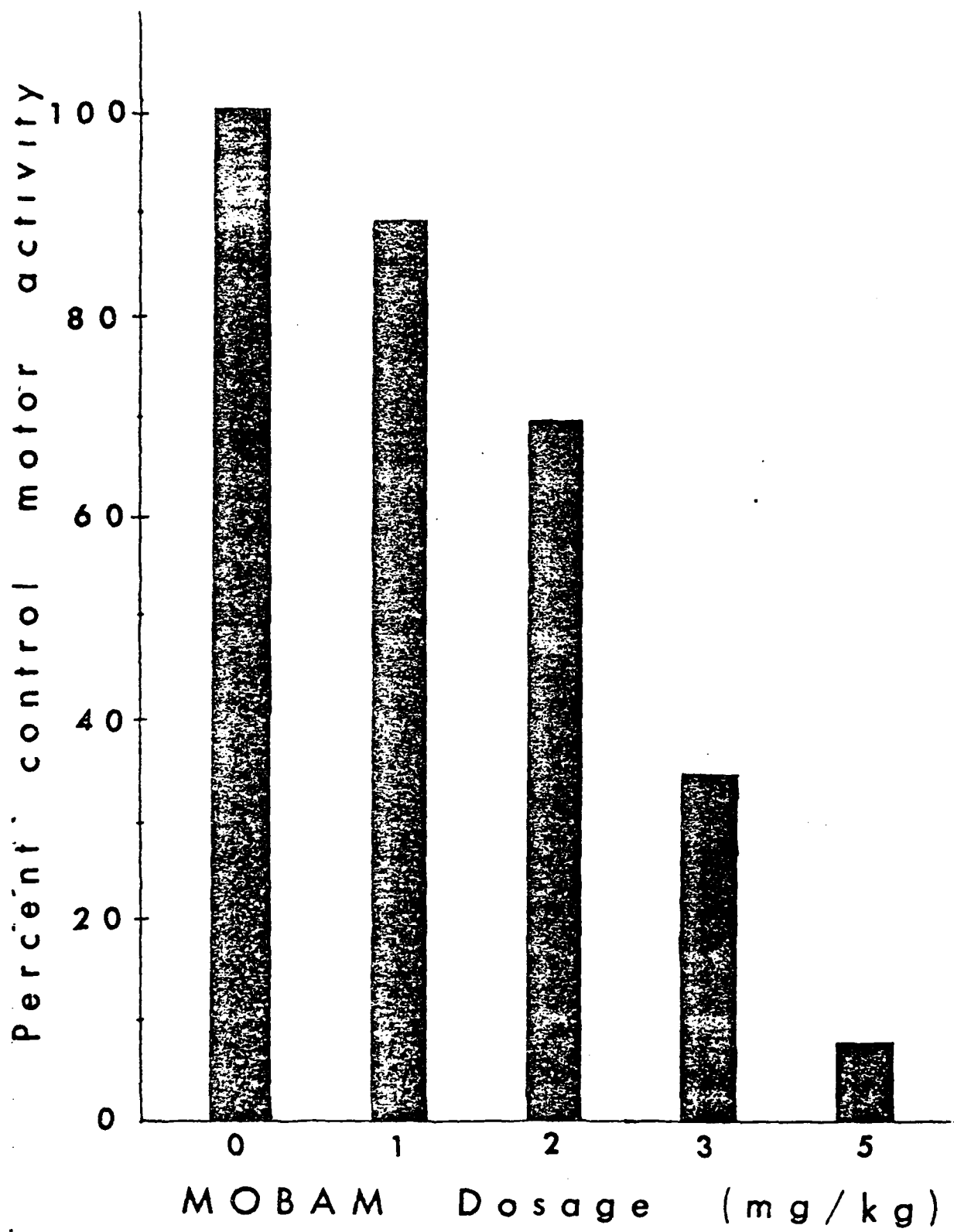


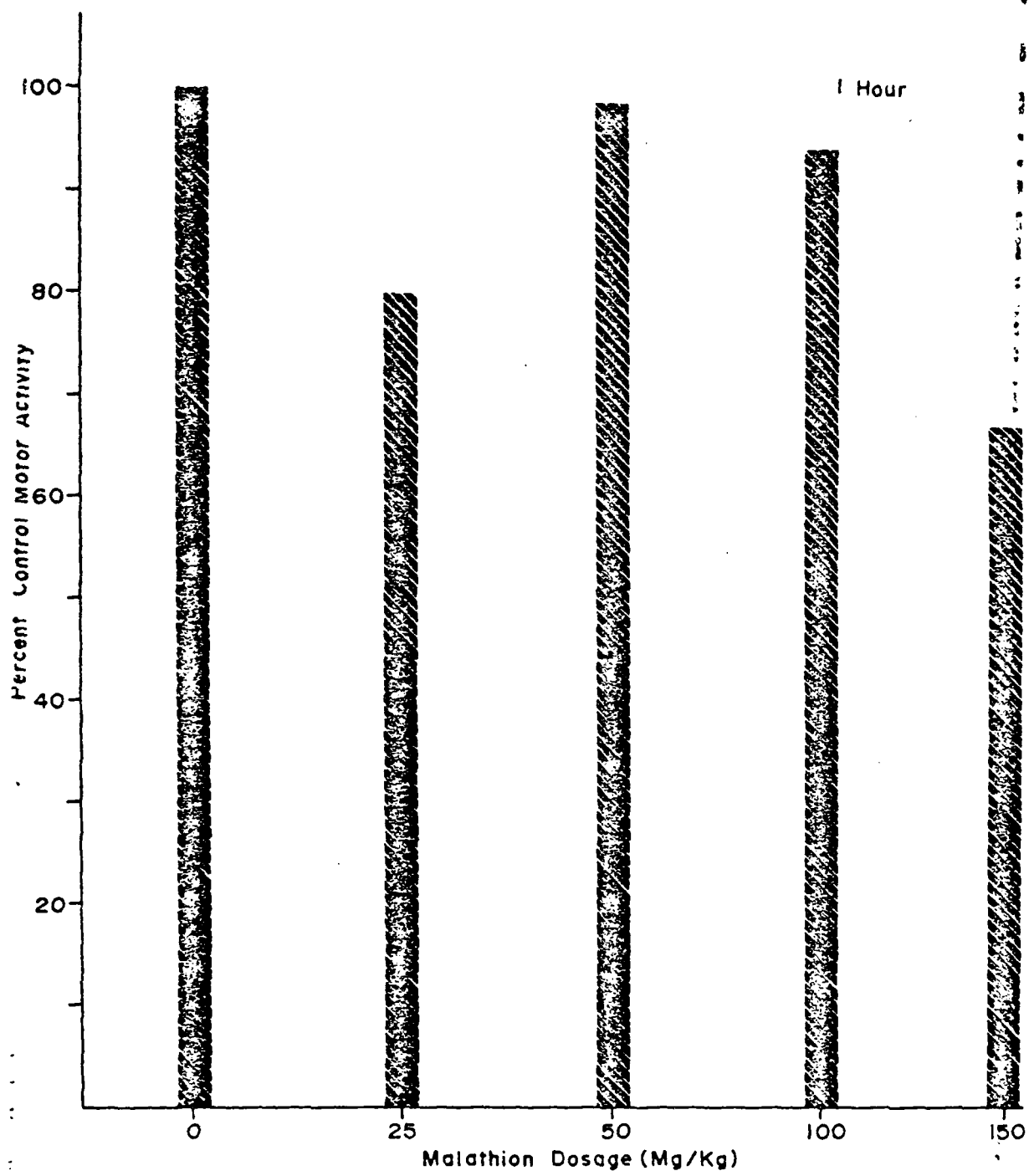




Malathion - 15 Min







Proceedings of Current Trends in Army Medical Service
Psychology November 8-12, 1976, Ft Sam Houston, Texas

INTRODUCTORY WORKSHOP

INTERPRETATION OF THE HALSTEAD-REITAN NEUROPSYCHOLOGICAL
BATTERY FOR ADULTS

(SUMMARY)

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The workshop began with a presentation by Dr. Reitan. Initially, he discussed the area of clinical neuropsychology in general terms in order to provide a background for the more specific issues to be covered. Following this, he explained in some detail the various procedures composing the Halstead-Reitan Neuropsychological Battery for Adults and used slides of these procedures to aid the participants' understanding of them. Following this, he discussed a number of general issues germane to the field of clinical neuropsychology, including the relationship of this field to medicine and various forensic concerns.

Subsequent to this introduction by Dr. Reitan, several cases were presented. The data from each case, including the patients' responses to the Aphasia Screening items, were made available to the participants by means of both slide projection and copies of the evaluation results. Syllabuses were prepared for the participants, and each syllabus contained the following items: A copy of a paper presented by Dr. Parker prior to the workshop entitled "Introducing Clinical Neuropsychology," a description of the procedures in the Halstead-Reitan Neuropsychological Battery for Adults, a brief introduction to this clinical neuropsychological evaluation suitable for a referring professional and designed to acquaint him with this evaluation, the Neuropsychological Evaluation Summary Record Form used at Madigan Army Medical Center, and data and brief reports of eight patients, five of whom had diagnosable medical conditions and three of whom did not. Six of these cases were included by Dr. Parker, and the remaining two by Dr. Reitan. This syllabus is currently available and can be obtained by contacting Dr. Parker.

The format for case presentation was similar for each of the three cases presented. Due to time constraints, all eight cases were not presented for this workshop. Each case presentation was initiated by Dr. Parker, who interpreted the data and gave his impression of the results. He then presented appropriate medical and psychosocial information bearing on the case. Dr. Reitan then provided a commentary on the case, making any observations and inferences which he deemed appropriate. The presentations were carried out in an informal atmosphere which allowed considerable discussion of specific issues and details pertaining to each case.

The three cases chosen for presentation provided a wide assortment of clinical issues encountered by the practicing neuropsychologist. The first case involved an evaluation of the degree of impairment of a 45-year-old male who presented with a left posterior astrocytoma, grade 3-4, which was confirmed at autopsy (a slide detailing the pathology was shown). The second case was that of a 40-year-old male, who was thought to have subtle impairments in brain functioning which would serve as limiting factors in his ability to function on his job. The third case concerned a 28-year-old female who had been diagnosed as schizophrenic. The purpose of evaluating her involved the identification of any abnormalities in brain functioning which might be related to her supposedly schizophrenic symptomatology.

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INTRODUCING CLINICAL
NEUROPSYCHOLOGY

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Clinical neuropsychology is a specialized field of endeavor which seeks to apply the knowledge of human brain-behavior relationships to clinical problems. Human brain-behavior relationships refer to the study of research-derived associations between an individual's behavior, both normal and abnormal, and the functioning of his or her brain. The clinical neuropsychologist takes extensive measurements of a variety of kinds of human behavior, including receptive and expressive language, problem-solving skills, reasoning and conceptualization abilities, learning, memory, perceptual-motor skills, etc. From this complex and detailed set of behavioral measurements, a variety of inferences can be drawn relating directly to the functioning of an individual's brain. Thus, in clinical neuropsychology, the operation and condition of an individual's brain is assessed by taking measures of his or her intellectual, emotional and sensory-motor functioning.

In studying brain functioning by measuring behavior, the clinical neuropsychologist makes use of a specialized set of tools which is appropriately labeled the clinical neuropsychological evaluation. This instrument is generally composed of numerous psychological and neuropsychological procedures which measure various abilities and skills. Some of these procedures are drawn from psychology (WAIS, Form Board in TPT) and others have been developed specifically from neuropsychological research (Category Test, Speech Sounds Perception Test, etc.). These strictly neuropsychological procedures compose the greater part of the evaluation, especially since they were developed specifically to assess brain functioning by measuring higher mental abilities. Still other procedures in the evaluation were borrowed directly from neurology (certain items on Aphasia Screening; Sensory Perceptual Examination) and were standardized in their administration. Some of the procedures in the evaluation are rather homogeneous in that they depend on mainly one ability or skill for success or failure (Finger Oscillation Test primarily relies on motor tapping speed). Other procedures are more heterogeneous and depend on the organized and complex interaction of

several distinct skills or abilities for success (Tactual Performance Test--tactile perceptual ability; appreciation of two-dimensional space; planning and sequencing ability, etc.). In all, the clinical neuropsychological evaluation gives the practitioner in this field a wealth of information about an individual's unique pattern of skills and abilities.

The clinical neuropsychological evaluation has essentially two main purposes: one involving diagnosis and the other involving behavioral description. The diagnostic power of a neuropsychological instrument, such as the Halstead-Reitan Battery, has been well documented and need not be discussed in detail (Vega and Parsons, 1967; Filskov and Goldstein, 1974; Reitan and Davison, 1974). In neuropsychological diagnosis, the presence or absence of impairments in brain functioning can be determined along with other important factors, such as lateralization, localization, severity, acuteness, chronicity or progressivity, and type of impairment suspected of being present (tumor, stroke, closed head injury, etc.). Four primary methods of inference are utilized in making these determinations, namely, level of performance, pathognomonic sign, comparison of the two sides of the body and specific patterns of test scores.

The level of performance approach primarily involves determining how well or how poorly an individual performs on a certain task, usually by means of a numerical score. Cut-off scores are generally developed for such a task, which allow the practitioner to classify an individual as either impaired or unimpaired with respect to brain functioning, depending upon whether his score falls above or below the cut-off value in use. The Halstead Category Test provides an example of this level of performance approach. On this procedure, a score of 51 errors or above places an individual in the impaired range. Likewise, a score of 50 errors or below places the individual in the normal range or that generally characteristic of individuals with unimpaired brain functioning. The primary danger of using level of performance measures alone to diagnose brain dysfunction is that of classification errors. In most cases, the cut-off score will not completely separate individuals with brain dysfunction from those without. Therefore, both false-positive and false-negative errors can be expected, depending upon the particular cut-off score established. Such a procedure in fact used in isolation is tantamount to employing single tests to diagnose "brain damage," and this approach has been justly criticized in previous work (Reitan and Davison, 1974). Thus, additional methods of inference are used in neuropsychological assessment in order to sharpen diagnosis and minimize errors.

The pathognomonic sign approach essentially involves identifying certain signs (or specific types of deficient performance) which are always associated with brain dysfunction whenever they occur. An example of such a pathognomonic sign would be an instance of dysnomia on Aphasia Screening made by an individual with a college degree and normal IQ values. Such an individual would not be expected to say "spoon" when shown a picture of a fork and asked to name this object. The appearance of a true pathognomonic sign in

a neuropsychological evaluation can always be associated with some sort of impairment in brain functioning. However, the converse is not true. That is, the absence of various pathognomonic signs in a particular individual's record does not mean that this individual is free of brain dysfunction. Thus, using the pathognomonic sign approach, alone, one runs a considerable risk of making a false-negative error or discounting the presence of brain dysfunction when it in fact does exist. If other methods of inference are employed with this approach, however, then the likelihood is increased that any brain dysfunction present will be identified even in the absence of pathognomonic signs. Therefore, one may again see the value of and necessity for multiple and complementary methods of inference in clinical neuropsychology.

The third method of inference involves a comparison of the performances of the two sides of the body. This method was borrowed in principle almost directly from clinical neurology but involves measurement of a variety of sensory, motor and perceptual-motor performances on the two sides of the body and comparing these measures with respect to their relative efficiency. Since each cerebral hemisphere governs (more or less) the contralateral side of the body, some idea of the functional condition of each hemisphere relative to the other can be gleaned from measuring the performance efficiency of each side of the body. An example here is the Finger Oscillation Test. Here, tapping speed in the dominant hand is compared with tapping speed in the non-dominant hand. If certain expected relationships are not obtained, then inferences with respect to the functional efficiency of one hemisphere or the other can be made. This inferential approach provides important corroborative and complementary information, especially with respect to lateralization and localization of brain dysfunction.

The final method of inference to be discussed is that of specific patterns of performance. Certain scores and results may combine into particular patterns of performance which carry important inferential meaning for the clinician. For example, the relative absence of constructional dyspraxia, sensory-perceptual deficits, and aphasic disturbances, together with significant deficits on grip strength, Finger Oscillation and the Tactual Performance Test, may possibly be associated with brain dysfunction which is more anterior in location than posterior. As another example, severe constructional dyspraxia with an absence of aphasic disturbances, together with severe sensory and motor losses in the left upper extremity, is likely associated with dysfunction in the right hemisphere rather than in the left.

Thus, clinical neuropsychological diagnosis of brain dysfunction is carried out utilizing four primary methods of inference in a complex yet integrated fashion. Each of these methods is dependent upon and complementary to the others. The strength of neuropsychological diagnosis lies in the simultaneous utilization of these four methods of inference. Thus

some particular impairment in brain functioning may yield relatively normal levels of performance but, at the same time, may produce certain pathognomonic signs or yield patterns of performance which are clearly associated with brain dysfunction. Thus, the cross-checks and multiple avenues of gaining information, made possible by the simultaneous use of these four methods of inference, allow sound and accurate diagnosis of brain dysfunction by the experienced clinical neuropsychologist.

The second major purpose of clinical neuropsychology, as mentioned above, is behavioral description and delineation of behavioral strengths and weaknesses. This type of formulation can be most essential in making recommendations for an individual's treatment, disposition and management. This, in fact, is considered by some practitioners to be the most important function of the clinical neuropsychological evaluation. Behavioral description is the clinical neuropsychologist's unique input into a patient's total medical workup. Other specialists, notably the neurologist and neurosurgeon, are excellent neurological diagnosticians, and it is not the purpose of clinical neuropsychology to compete with these individuals or attempt to take their place. Thus, neuropsychological diagnosis can be considered an additional avenue of diagnostic input into a patient's workup. Behavioral description, on the other hand, is the clinical neuropsychologist's unique domain. Here, this practitioner can provide input into a patient's total medical picture which is not available from any other source.

Behavioral descriptions should start out with a thorough understanding of the patient's background, his educational level, his occupation, his age, his likes, dislikes, future plans, etc. This information is usually brought into play subsequent to a "blind analysis" of the patient's neuropsychological evaluation and a preliminary diagnosis and behavioral description based on this analysis. Before the final behavioral description and recommendations are given, however, the patient's background information is integrated into the formulation. Here, the clinical neuropsychologist can look at the particular patient's pattern of intellectual and adaptive strengths and weaknesses shown on the neuropsychological evaluation and integrate these findings with the patient's individual situation. This can be considered to be a very important process in terms of formulating specific, meaningful and directly applicable recommendations for the particular individual under study.

Specific issues which often warrant coverage in neuropsychological behavioral description involve a variety of areas. From the clinical neuropsychological evaluation, specific areas in need of rehabilitation can be identified, as well as areas of behavioral strength which warrant the individual's awareness. Advice on coping with environmental demands in the face of particular behavioral deficits is often necessary, as well as some realistic prediction of future change in neuropsychological

status. The degree of behavioral deficit in various areas can often be specified and questions with respect to a patient's ability to manage himself and behave adaptively in society can be answered directly. Forensic issues can often be dealt with in terms of providing direct, clear information with respect to a patient's judgement, competence, degree of intellectual and adaptive loss following brain disease or trauma, etc. Other specific areas in which the clinical neuropsychological evaluation can provide input include educational potential, occupational potential, the effects of brain dysfunction on social adjustment, etc. Thus, the importance of the behavioral picture of a patient obtained from the neuropsychological evaluation is immense.

As mentioned above, the clinical neuropsychological evaluation is not meant to compete with or take the place of more traditional medical procedures. In fact, certain important differences exist between the clinical neuropsychological evaluation and these procedures. First of all, the neuropsychological evaluation is primarily concerned with higher mental abilities, such as language, reasoning, judgement, etc. Traditional neurology, on the other hand, emphasizes assessment of sensory and motor functions and reflexes. Thus, although the neurologist and neuropsychologist study the same general phenomenon, that is, nervous system function and dysfunction, these practitioners nevertheless emphasize different aspects of this phenomenon. The clinical neuropsychologist takes precise and specific measurements of a variety of aspects of higher cortical functioning. The neurologist, on the other hand, primarily concentrates on lower-level phenomena of nervous system functioning. Thus, the results of these two types of evaluation may not always agree, given the different aspects of the central nervous system emphasized and the different methods and procedures used by each of these practitioners. Logically, the clinical neuropsychological assessment and the neurological evaluation should be considered complementary to each other. Certainly, neither one is substitute for the other. Where possible, both of these procedures should be employed in order to obtain a full and detailed picture of an individual's central nervous system functioning.

Traditional psychological assessment procedures and the clinical neuropsychological evaluation also have a number of differences worth noting. In traditional psychological assessment, for example, an individual's average or modal performance is usually desired. On the neuropsychological evaluation, however, the examiner strives to obtain an individual's best or optimal performance. Thus, considerable encouragement and positive support is given to the patient during a neuropsychological evaluation to perform as well as possible. Such encouragement is generally not given under traditional psychological assessment conditions. Additionally, psychological procedures, such as the Rorschach, MMPI, Wechsler Intelligence Scales, Draw-A-Person, etc., have traditionally

been used by psychologists who diagnose brain damage and disease. Although each of these procedures may contribute significant information about a person's behavior, their validity in detecting the presence or absence of brain dysfunction and determining the nature and location of the dysfunction is rather limited. The clinical neuropsychological evaluation, on the other hand, has been developed specifically for this purpose and has been validated against stringent medical criteria, such as surgical findings and autopsy reports. In addition, traditional psychological assessment procedures generally don't make use of the multiple inferential methods employed by the clinical neuropsychological evaluation. Oftentimes, only one or at most two inferential methods are used with traditional psychological assessment procedures in making determinations of the presence or absence of brain dysfunction. Thus, the comprehensive approach to making inferences and drawing conclusions used by the clinical neuropsychologist is felt to be superior to more traditional psychological methods in the diagnosis and description of brain dysfunction.

Summary

A general discussion of the field of clinical neuropsychology is presented. The defining characteristics of the field, as well as clinical methods used by practitioners in the field, are discussed. The clinical neuropsychological evaluation is analyzed in terms of its diagnostic and descriptive value. A special emphasis is placed on the descriptive aspects of this evaluation as being the clinical neuropsychologist's unique input into an individual's total health care workup. Additionally, the clinical neuropsychological techniques, and similarities and differences are noted.

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A MODEL FOR BEHAVIORAL
MANAGEMENT AND RELATIONSHIP TRAINING
FOR PARENTS IN GROUPS

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OUTLINE

- I Rationale and Goals
- II Methodology
- III Results of Pre and Post Questionnaires
- IV Conclusions

I

The parent training groups were developed for the following reasons: Many of the consults received at our psychology service from pediatrics and the adolescent clinics were requesting assessment and treatment of a number of children who were having behavioral problems at home and or at school, i.e. tantruming, hitting siblings, lying, not attending, etc. Some consults were indicating possible child abuse. As a result of the assessments, we perceived a great need for parents to learn more behavioral management skills.

The goals were developed by Dr. Ray Gentry and myself. A series of workshops were presented to parents which would provide them with communication and relationship skills prior to exposing them to social learning principles and additional tools for behavioral management. Mothers and fathers were expected to improve their communication and relationships, with their children, and their ability to manage the behaviors of their children. Social learning principles served as a "common base" upon which both parents could make "mutual" decisions about child management. Even though one or both parents may have limited time with their children due to jobs or other obligations, we stressed "quality" of time

rather than "quantity" of time when interacting with children. Parents were encouraged to use creativity and common sense, along with what they learned from the workshops.

II

Ten families were involved in the group. Six of the families were represented by both parents. Mothers represented the remaining families. Two mothers were geographically separated and two had husbands who either did not choose to, or had difficulty coming to the sessions. These sessions were held from 1030 to 1230 hours once a week for eight weeks. The ages of the children of these parents were from 18 months to 15 years of age. The age variability was intended. The hope was that these parents could share age-related child rearing practices, and gain insight into developmental aspects of behavior in children. i.e. When to generally expect what behavior(s).

Parent-Child Relationship Training (PCRT), developed by Dr. Constance Hanf, of the University of Oregon Medical School, was used as the primary tool for enhancing growth in relationships and communications.

An overall look, by session, at the training program will now be briefly outlined. The first group session is called the "initial discussion". It is designed to give parents the opportunity to express their feelings and thoughts about child management and parenting. Negative labels such as; bad parents, irresponsible parents, are hopefully neutralized and guilt feelings are lessened. The following questions and points are discussed: (a) What is P.C.R.T.? (d) What is behavior management? (e) Why manage children? (f) How are children managed? (g) How do parents feel about reinforcing and punishing children? (h) What characterizes an aggressive, passive or assertive parent or child? The first assignment is given during this initial session. Each parent is asked to select and list 3 appropriate and 3 inappropriate behaviors for their most problematic child. After each parent develops their own list, a "mutual list" is formed by both parents. This list is based upon their individual lists. This is a first effort to have parents work on mutual decisions related to child rearing. Two references are given to parents; Patterson and Guillion (1971) as a source for learning principles and behavioral techniques, and Alberti (1974) as a source for examining their aggressive, passive, and assertive behaviors.

The second session focuses on P.C.R.T. principles, active listening, expression of feelings by parents, and a review of the assignment given in the previous session. The specific P.C.R.T. goals, which are presented are: (1) To increase parents' attending behaviors, i.e. attending to the

child's behaviors, and (2) increasing parent's ability to describe the child's behaviors. The attending and following of the child's behaviors allows the parent to play the "child's game". The child hopefully begins to notice that his parents have a special interest in what he or she does. The child's game is intended to increase the rapport and improve the relationship between parents and their children. The assignments this session are to have the parents play the child's game several times a day for 10 to 15 minute segments of time. The other assignment is based upon a brief review of each families "mutual list" which may indicate the need for continued efforts to complete and refine the list.

The third session is the actual start of the Behavior Management Training. Certain necessary terms are explained; i.e. consistency, immediacy, effectiveness, contingency and systematic. These terms are emphasized and used throughout the training because the use of these terms by parents may make their management tools even more effective. Learning principles which focus on, how to learn new behaviors through, (1) reinforcement; primary, secondary, verbal, non-verbal, contingent and pervasive; (2) Shaping; and (3) modeling are presented and discussed. Parents are asked to share the effects of the child's game on themselves and their children. They are asked to continue using the child's game. Parents are also asked to begin observing the 3 inappropriate behaviors; charts are distributed and instructions given. Both parents are asked to observe daily; three times a day for one hour, for the parent who is home during the day and one time a day for an hour for the parent who works.

The fourth session consists of reviewing the observation assignment, selecting the "target behavior", presenting the second learning principle - which deals with maintaining or increasing appropriate behaviors through positive and negative reinforcement, and discussing the use of schedules of reinforcement. The third learning principle which involves eliminating or decreasing inappropriate behaviors is begun. The assignment is for each parent to observe daily the target behavior, its antecedents and consequences; charts are given along with instructions.

The fifth session completes the discussion of techniques which will eliminate or decrease the inappropriate behaviors. The techniques are: extinction process, satiation, counterconditioning, stimulus change, taking away positive reinforcers, and appropriate punishment. In depth discussion is centered on the observation assignment given in the last session. Parents are asked to discuss the antecedents and consequences that they noted. The goal is to have parents become very aware of the effect that their initiation and response patterns may have upon their child's behavior. Parents are asked to repeat the same observation assignment. The intention is that they may see the need to change some of their own behavior.

The sixth session primarily focuses on "additional tools" for parents to use in developing their total behavior management programs. The tools are:

1. Home rules and regulations with a positive slant; positive expectation of the child's behavior.
2. Encouragement.
3. Appropriate attention (O'Leary and O'Leary 1972)
4. Soft/loud reprimand (O'Leary and O'Leary 1972)
5. Appropriate questioning; positive expectation of the child's ability to answer.
6. Positive contingency contracting (Homme 1970)
7. Group family approach / family council (Phillips 1975)
8. Assertive training (Alberti 1974)
9. Assist parents in developing their skills to work with teachers and other school personnel.

The "formal program format" which consists of an outline with blanks to be filled in by parents is also discussed and given as an assignment in this session. The format requires parents to fill in the: (1) target behavior, (2) new or alternative behaviors to be maintained, (3) inappropriate behaviors to be eliminated, (4) behaviors to be decreased, (5) behaviors to be increased. Parents are asked to fill in the format with the specific behaviors and to also consider which management tools will be used.

In the seventh session the formal program format is of primary importance. Every format is presented by the parents. Everyone in the group offers ideas for tools to use to help the parents complete the preparation of their programs. The latter part of the session provides the opportunity for parents to give feedback about how the training has met their needs. They are asked to think about questions they would like to ask in the next (last) session.

The eighth session focuses on the final questions, a review of each management program, and the post-test. Thirty days later, parents are asked to come in for a follow-up to discuss progress or any problems with implementation.

III

The results of the pre and post questionnaires will now be presented:

A: When parents were asked what percentage of the time their interactions were positive with their children, the following responses were given;

Pretest

<u>parents</u>	<u>percentage</u>
6	25%
4	50%

Posttest

1	50%
9	75%

B: When parents were asked the percent of time they praise their children, the responses were;

Pretest

<u>parents</u>	<u>percentages</u>
3	25%
5	50%

NOTE: Two parents chose not to answer this question (PRE-TEST).

Posttest

3	50%
4	74%
3	100%

C: The percentage of time parents stated that their interactions with their children were negative were:

Pretest

<u>parents</u>	<u>percentage</u>
3	25%
4	50%
3	75%

Post test

10

25%

D: The percentage of time the parents stated they listened to their children were:

Pretest

<u>parents</u>	<u>percentage</u>
1	25%
4	50%
2	75%
3	100%

Post test

<u>parents</u>	<u>percentage</u>
1	50%
7	75%
2	100%

E: The percentage of time parents said they talked to their children were:

Pretest

<u>parents</u>	<u>percentage</u>
1	25%
4	40%
5	80%

Post test

<u>parents</u>	<u>percentage</u>
1	25%
8	80%

NOTE One parent did not answer this question.

F: The percentage of time parents shared in making decisions in relation to child management were:

Pretest

<u>parents</u>	<u>percentage</u>
2	50%
5	75%
1	100%

NOTE: Two parents did not answer this question in the pre and post test.

Post test

2	50%
4	75%
2	100%

The parents' responses seem to indicate a positive trend. A few of the parents' final comments about the training may help to describe the benefits seen by the parents. Three comments are quoted below:

1. "I have many more tools to handle the problems I was confronted with. A good examination of myself and how I was coming through to the child. A much better understanding of my child's behavior. When adjustments were made in my attitudes, without fail, my child showed great improvement."
2. "I've realized that the problems I have with my kids are not unique-a lot of them are just normal kid stuff. I've also learned to be more patient with them, and I don't blow up with them as much."
3. "I really feel I have tools to work with, and I feel there is hope for our situation. I feel much better about being able to cope with all the situations within our family."

Parental response to an overall rating scale will further demonstrate their perception of the effects of the training. The questions and number of responses were as follows:

1. As a result of our treatment, your child has:

- (d) Improved slightly: 3 parents
- (e) Improved markedly: 7 parents

NOTE: Three other categories were presented to parents, i.e. (a) Become much worse, (b) Not changed, etc. However, no parent responded to them. For the sake of brevity, only the categories answered by parents will be presented in this paper.

2. In regard to the effect this treatment has had, you feel:

- (e) much more positive toward him or her: 10 parents

3. As a result of treatment, my family has, on the whole, begun to function:

- (a) better: 10 parents

4. On a whole, I think treatment was:

- (d) very effective: 10 parents

5. The effect of treatment on my daughter/son was:

- (a) better than I expected: 9 parents
- (b) about what I expected: 1 parent

6. As a result of treatment, my daughter/son seems:

- (c) more happy at home: 10 parents

IV

It is my feeling that more parents need relationship/communications and child management training. In the military, families, because of the moving, separations, and other stresses, probably need as much support as possible. Most military families are separated from the grandparents and aunts and uncles who may often assist or support a couple in rearing their children. Of course, sometimes this assistance may not be too helpful, depending upon the family and the situation. Couples with children, who do not have other family support, seem to need even more confidence in themselves as parents, and more skills and tools to manage their children. I hope that mental health professionals in the military will try this or any other model to meet a growing need of families in the military community. More research focused on what the specific parental needs are in relation to child management and family life in general is necessary.

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SHORT-TERM SOCIALLY-APPROVED
FATHER ABSENCE:
A REVIEW OF THE LITERATURE
WITH IMPLICATIONS FOR FURTHER RESEARCH

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A broad range of literature exists on how father-absence affects the personal, social, and intellectual development of children, however, these "have frequently involved simple-minded comparison of the differences between children reared in homes with or without fathers. Usually little attention is paid to such factors as the time and cause of separation from the father, the age of the child at time of testing, and the stresses and variations in family functioning that might mediate any differences found in children from intact or fatherless families" (Hetherington and McIntyre, 1975, p. 123). Biller (1970), in probably the most comprehensive review to date, determined that the effects of father absence are profound and long-lasting; and that these effects are especially severe in the male child. A review of subsequent literature has supported the contentions professed by most early researchers, as reported by Biller (1970).

Santrock and Wohlford (1970) examined reasons for father absence and the effects of the onset of the absence with lower-class, white, fifth-grade males (\bar{x} age 10.9 yrs) and reported that in "terms of aggression, divorce appears more disruptive than death and the later FA occurs seems to facilitate aggression" (p.266). In a comparison of onset of absence (0-2, 3-5, and 6-9 years of age) it was reported that the earlier father absence occurred, the lower the subjects's level of aspiration was. This study, however, had several methodological flaws which detract from its findings, but the ages at onset of absence and relation to aspiration level are interesting.

Santrock (1970) studied onset of father-absence in relation to Erickson's (1968) four stages of development and found that onset of father absence between 0-2-years-of-age was most debilitating to personality development in terms of shame, guilt, inferiority, and trust. Santrock concluded that "the fact that disruption by father-absence at an early age (0-2 years) resulted in more detrimental personality characteristics at the age of 10 than father absence at a later age provides support for Erickson's contention that the development of a basic trust in the child's early years serves as a foundation on which ensuing stages may build" (p. 274). These

conclusions seem unsupported in relation to the actual study since this age group (0-2) had experienced father-absence for a much greater length of time than had other groups studied. Since the data appeared to stair-step with age group, it would appear that duration of absence, as well as age of onset, is related to development of personality characteristics. Apparently, from these studies, father-absence during the 0-2 age range of male offspring is detrimental to normal intellectual and personality development. However, neither of these studies considered the effects of the duration of absence.

Blanchard and Biller (1971), in a more refined study, compared matched groups of early father-absent, late father-absent, father-present with low father availability, and father-present with high father availability third-grade boys and predicted that degree of father availability would be positively related to academic achievement and to grades. They studied boys when absence occurred prior to age 5 and after age 5, and reported that greater handicaps in academic performance are associated with father-absence early in life than when absence occurs later. Again, however, duration of absence was a confounding variable.

Santröck (1972), in an extensive study, offered a possible explanation for the differences associated with earlier onset of absence. "If the absence of the father predisposes the child to miss certain cognitive experiences, then it seems logical to hypothesize that earlier father-absence disrupts cognitive development more than later absence" (p. 456).

Moerk (1973) in a study of effects of father-absence due to imprisonment stated that "socially approved father-absence, such as a diplomatic mission, service in the armed forces, or a trip at sea, would have different effects on the child than socially disapproved father absence" (p. 303); however, he gave no support for this statement. A review of the literature related to the effects of "socially approved father-absence" revealed some interesting findings and possibly give new definition and direction to traditional concepts of the field of father-absence.

Initial study into the area of positive father-absence concerned the effects of World War II. Stolz (1954) linked difficulty in peer relationship in children to father-absence. He studied 19 families where first born children were separated from their fathers due to World War II. Clinical reports revealed that these children had more "problems" in loss of independence, poorer peer relations, and tended to assume either very aggressive, assertive and dominant roles or very passive, submissive ones.

Lynn and Sawrey (1959), in the most oft-quoted and probably the classic study in the area, studied differential effects of father-absence on boys and girls of Norwegian sailor families. They found that father-absent children listed the following characteristics: (1) more showed greater dependence, (2) more showed pseudo-maturity, and (3) more idealized their

their father. Results of their investigations revealed that father-absent boys were less mature, had stronger strivings for father identification, showed greater compensatory masculinity, and exemplified poorer peer adjustment than did father-present boys. Lynn and Sawrey also quoted a Norwegian study (Tiller, 1958) which found that mothers whose husbands were away had some interesting characteristics when compared to control mothers. These included: fewer had an active social life, fewer worked outside the home, more were over-protective, and more stressed obedience and politeness. Lynn and Sawrey concluded that father-absence appeared to be the determining variable in producing significant results.

Carlsmith (1964) also studied father-absence due to World War II, only from a more scientific position. By building on previous studies which had reported father-absent boys show more underlying feminine traits and boys who experienced early separation from their fathers to have different patterns of aptitude scores on College Board tests than those not separated, especially in the areas of mathematical and analytical modes, she was able to verify existing conclusions. Several researchers have reported on the phenomenon that females are superior to males in verbal scores on the College Board while males are superior in mathematical scores, and Milton (1957) indicated a striking correlation between problem-solving abilities of adolescents and their scores on masculinity-femininity scales of the MMPI: males and females high on masculinity show superior problem solving ability. Plank and Plank (1954) reported that female mathematicians have "strong identification with a masculine figure in their lives" (p.268). These findings suggest a conceptual approach for masculine thinking: high math = masculine; high verbal = feminine.

Carlsmith (1964) used only math-verbal scores of males from intact homes of upper and middle class, matched on academic success, with no other adult males in the home during father's absence in her study. Results revealed that "the relative superiority of verbal and math aptitude increases steadily the longer the father is absent and the younger the child is when the father left" (p. 10). Results also supported hypotheses that early and long separation from fathers results in relatively greater ability in verbal area than in math while no separation produces relatively greater ability in math. This agrees with results reported by Alpert (1963) which indicate that aptitude for math is established early (well under way by 4th grade) and is highly resistant to change. Carlsmith's conclusion was "that aptitude patterns or conceptual approaches are related to both sex-role identity and the father-son relationship and that absence of the father during certain early periods of the child's life has important effects on later cognitive development" (p. 19). These results apparently lend agreement with the findings of Santrock (1970) and Blanchard and Biller (1971) concerning effect of early father-absence.

Pedersen (1966) compared a sample of emotionally disturbed military children and normal military children and tested two hypotheses: "(1)

emotionally disturbed male children are predicted to have histories showing significantly longer periods of father-absence, and (a) within the disturbed and normal ranges, the extent of father-absence in the child's history is predicted to be positively related to the degree of emotional disturbance the child now shows. Twenty-seven Caucasian male military dependents were administered the Inventory of Personality Adjustment and asked to report on the extent of father-absence. They found no support for either of the hypotheses. Disturbed children experienced any greater amount of father-absence than the control group. However, within the disturbed group, the longer the father-absence throughout the life of the child, the higher the child's score on the adjustment scale of the Rogers Test.

From the findings of this study it can be concluded that father-absence does not have a direct effect on the child's adjustment. An interesting possibility is that father-absence facilitates emotional adjustment in some children (Hill, 1966, p. 326), but this is not the case in this study.

The most important finding of this study, however, lies in the scores of the parent-child relationship. It was found that "mothers of disturbed children are more hostile to their children than the mothers of normal children" (p. 327). However, this difference was not significant. From these findings we are tempted to say that effects of father-absence are mediated by degrees of maternal hostility. Perhaps fathers serve as buffers between disturbed mothers and their children when they are at home, but when absent the full impact of the disturbed mother is felt. The Lynn and Sawrey (1959) and Hill (1966) studies, previously reported, support this contention. "The results of each of these studies suggest that maternal behavior has a mediational effect upon the child's reaction to father absence" (p. 330).

Hillenbrand (1971), in her doctoral dissertation, studied 126 sixth-grade pupils in dependent schools on several variables. Results reveal that father-absence has different effects on first and later-born boys. In first-born father-absence is significantly related to enhanced quantitative ability and decreased IQ difference scores. Absence was also not related to aggression in first-born boys but was in later-born boys with more and earlier absences, especially where older sisters were in the home. Later-born males were also more dependent and showed higher IQ difference scores. Hillenbrand hypothesized that first-born become reinforced for "responsible acts" and are more likely to cope with the stress of father-absence and develop analytically-oriented behavior characteristic of the masculine role while later-born boys tend to become dependent and choose aggression as a means of coping. These could indicate underlying feminine tendencies. In the area of maternal dominance she found a significant correlation in later-born males with increased IQ, increased verbal and

quantitative abilities and decreased aggression, which was not shown in first-born.

Several reports dealing with father-absence have been reported in psychiatric-type journals and report little data, and are not reported in depth here, however, persons seeking additional information referring to specific areas, such as personality (Baker, Fisher, Janda, Cove and Fagen, 1967; Crumley and Blumenthal, 1973); behavioral problems (Gabower, 1960); or other areas should not hesitate to consult these publications.

Marsella, Dubanoski, and Mohs (1974) administered the Parental Attitude Research Instrument to wives of nuclear submarine personnel under counter-balanced conditions of father presence and absence. Significant differences were found on four subscales reflecting themes of maternal domination and three reflecting themes of maternal dissatisfaction and discord. In all conditions scores were higher when the father was present.

"Results of this experiment indicate that father presence and absence affects the maternal attitudes of mothers" (p. 259). This agrees with Pedersen (1966), and Hoffman (1971) when he said "... the effects of father absence on boys may be partially mediated by resulting changes in the mother's child rearing practices" (p. 400). Marsella et al. stated, "it is conceivable that the father, when present, may influence personality development of the child through direct reinforcement or through the child's use of him as a model for identification. However, it is also possible that the father can indirectly influence personality development of the child through his influence upon the mother's maternal behavior. The father can help shape the mother's maternal behavior through direct reinforcement of his views, through the mother's use of him as a model, and through the alterations which occur in the frequency, duration, intensity, and context of mother-child interaction during his absence. In brief, father presence and absence could exercise its effects on child behavior through changes in the mother's maternal behavior during the father's absence" (p. 258).

The interest in maternal attitude may open a new view of short-term father-absence which is entirely removed from normal father-absence studies. The findings expressed here agree with earlier studies by Crain and Stamm (1965). They reported that the domestic father is generally more democratic than the one who is frequently away from home, and Putney and Middleton (1960) noted that parents tend to take a more severe position in child rearing jointly than individually, and they usually resolve their differences by taking a more exacting rather than a more permissive position. The aspects of maternal dominance associated with higher scores by males on traditionally female subtests as also reported by Becker (1974) in a review of father-absence and creativity. Although Becker was dealing with long-term father-absence his findings are important; children who are most influenced by the mother will be more likely to exhibit

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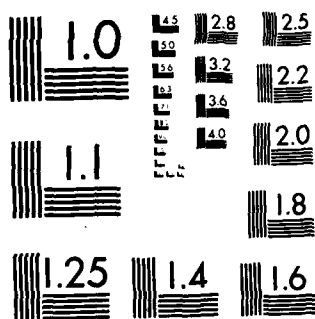
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primary abilities needed for creative expression than those influenced by the father. He views father-absence as positive to the aspects of creativity because of mother dominant influence.

From these studies it appears well supported that short-term positive father absence has certain affects upon young males, but that the unitary aspect of father absence must be deserted. These studies also reveal that father-absence and short-term socially-approved father-absence may reflect a different field of study, especially from the aspects of maternal mediation. Perhaps, and evidence reported here lends support to this concept, it is the emotional aspects of the mother, and her ability to withstand the stress of separation which is the primary factor in problems associated with short-term positive father-absence, or result in the feminization of her male offspring.

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A VOLUNTEER TRAINING PROGRAM IN A CHILD AND FAMILY CLINIC

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INTRODUCTION

Ireland Army Hospital has a client population of 110,000. Military and civilian professionals in this geographic area are unable to effectively meet the demands for psychodiagnostic and family services. Therefore, the following training program was devised to develop a pool of volunteers with professional skills to help more effectively meet the demands for services.

The training program assumes that volunteers (1) are interested in Psychology, (2) willing to work, and (3) have a keen appreciation for the need for confidentiality. All requisite skills will be taught in the program.

The basic training sequence (see Appendix 1) was constructed to reflect a hierarchy of professional diagnostic and intervention skills in psychology and family guidance. It is a competency based program in which advancement to a higher level is dependent upon mastery of the next lower skill level and the individual's interest. After a trainee has mastered a skill area, he may choose to (1) remain at the mastered skill level in the hierarchy, (2) receive advanced training and continue to work at the mastered skill level, or (3) receive advanced training and serve as a trainer at the mastered skill level. Although the final determination of skill competency will be made by the Chief of Psychology Service, other qualified personnel generally perform the training to the point of skill certification.

If the volunteer wishes upon skill certification, he may receive 9 graduate or undergraduate hours for psychodiagnostic training and 6 graduate or undergraduate hours for family guidance training from Western Kentucky University.

The Program Sequence

1. All trainees will be required to learn and demonstrate mastery of the Basic Level Skills. Mastery will be demonstrated when the individual can:

- a. Independently conduct an Ecological Evaluation of preschool or kindergarten age child.
- b. Draw appropriate conclusions from the evaluations.
- c. Make practical recommendations for the family and/or school from the evaluations.
- d. Write a report which effectively communicates the results of the evaluation, conclusions, and recommendations.

2. After the Basic Level has been mastered, the trainee may choose to advance through the psychodiagnostic and/or the family guidance training sequences.

The Family Guidance Sequence

1. Level I: The trainee will:

- a. Learn and effectively implement the behavior modification principles of the Parent Child Relationship Training (PCRT) Program.
- b. Effectively conduct PCRT with at least one family.
- c. Record and maintain all behavioral data obtained in PCRT.
- d. Summarize training results and terminate families from PCRT.

2. Level II: The trainee may choose to master the Dreikur's parent training program and/or begin training in family evaluations. A third option is Play Therapy.

- a. The Dreikur's parent training program requires the trainee to:
 - (1) Learn and implement Dreikurian parent training principles.
 - (2) Observe two complete courses of Dreikurian parent training.
 - (3) Conduct at least one Dreikurian parent training class under supervision.

(4) Independently conduct at least one Dreikurian parent training class.

b. The family evaluation training at Level II consists of:

(1) Extending the evaluation, conclusions, recommendations, and writing mastered in the Basic Level to an entire family unit.

(2) Observing and learning the principles of family evaluations.

c. The third training option at Level II, Play Therapy, requires the trainee to learn and implement the principles of play therapy necessary to help the child (1) identify, (2) label, and (3) appropriately express his feelings. The trainee must demonstrate mastery of these skills with at least two children. Mastery of play therapy skills are not requisite for advancement into other areas.

3. Level III: The trainee will co-lead family evaluations with the psychologist or another functional professional. He will continue his Dreikurian training.

4. Level IV:

a. The trainee will be able to independently conduct a family evaluation.

b. The trainee will learn and implement the basic skills for family communication training (FCT). As a member of a communication training class, the trainee will learn to:

(1) Define problem "ownership".

(2) Effectively use "I" messages.

(3) Effectively use listening skills.

c. After successfully completing this training, the trainee will co-lead a FCT class with the psychologist or another functional professional. Finally, he will independently conduct at least one FCT class to demonstrate his competency.

5. Level V: The trainee will co-lead a family therapy treatment process with the pathological family.

6. Level VI: The trainee will independently conduct family therapy with a pathological family.

The Psychodiagnostic Sequence

1. Level I: The trainee will master the techniques necessary to:
 - a. Administer objective and projective psychological tests.
 - b. Record test data obtained during test administration.
 - c. Observe and record all of the examinee's behavior during the testing session.
 - d. Recognize and categorize the psychological tests typically used in the Psychology Service.
 - e. Formally write the Test Administered and Test Behavior and Observations portion of the psychological evaluation protocol.
2. Level II: The trainee will learn to score objective personality, intellectual, and academic tests.
3. Level III: The trainee will learn and utilize the skills necessary to:
 - a. Interpret intellectual, academic, and perceptual tests.
 - b. Effectively write the intellectual, academic, and perceptual portions of the Test Results and Interpretations section of the psychological evaluation protocol.
 - c. Make practical recommendations to the family and school based upon the intellectual, academic, and perceptual test results.
4. Level IV:
 - a. Through observations of consultations and role playing, the trainee will learn to effectively communicate psychological evaluation results to families and teachers.
 - b. The trainee will master and be able to communicate the basic ethical and standardization principles of psychodiagnostic tests.
5. Level V: The trainee will consult directly with families and teachers about psychological evaluation results.
6. Level VI: The trainee will:
 - a. Learn and conduct in-depth personality evaluations.

b. Effectively write the socio-emotional portion of the psychological evaluation protocol.

7. Level VII: The trainee will administer, evaluate, write, and consult about complete psychological evaluation.

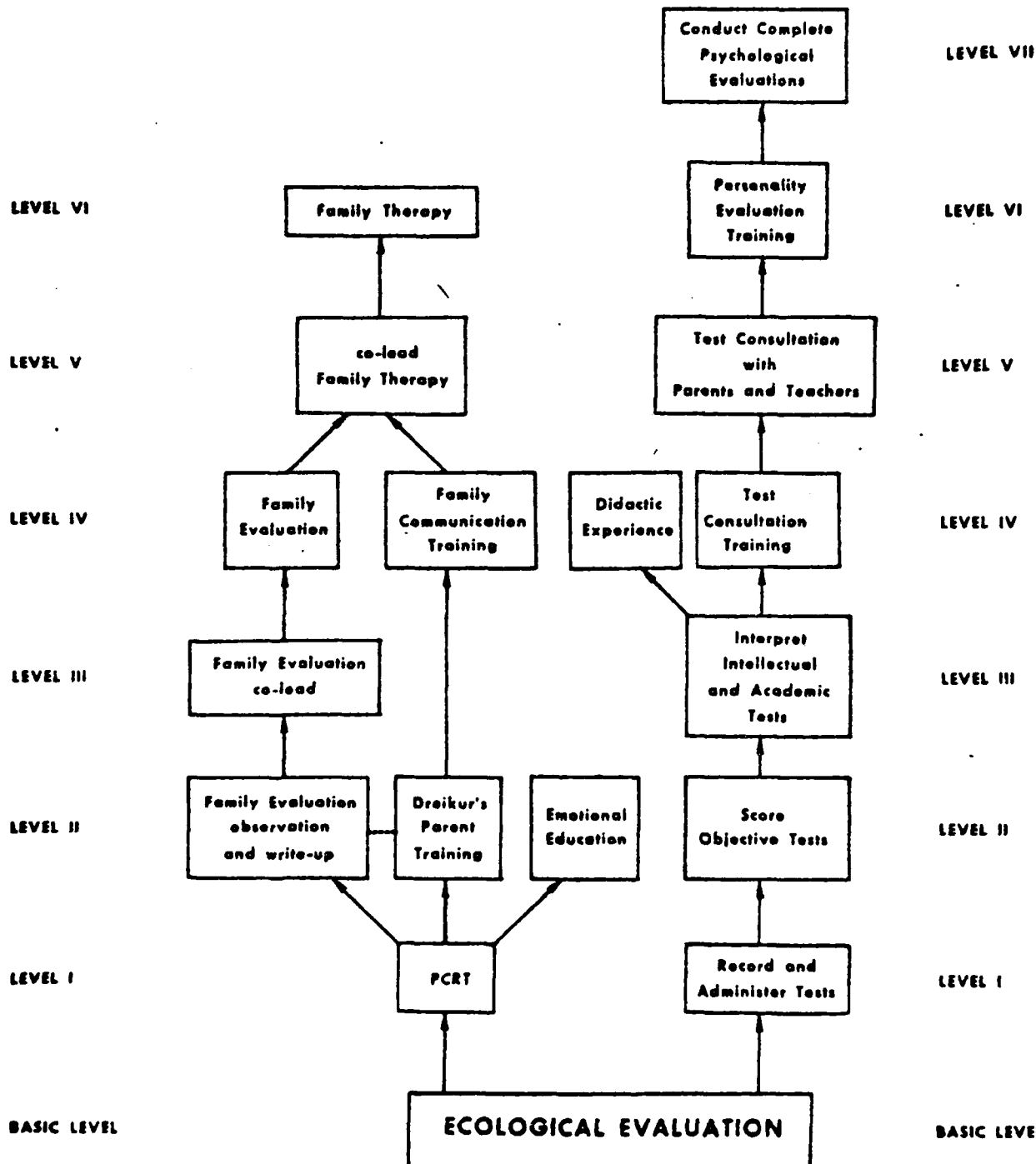
Modified Sequences

In rare instances, an individual may have special interests or skills which may allow deviation of training experiences beyond the Basic Level. Authorization for such modifications will be the responsibility of the Chief of Psychology Service. However, in no instance will the Basic Level be omitted or modified.

PSYCHOLOGY TRAINING SEQUENCE

FAMILY GUIDANCE SEQUENCE

PSYCHODIAGNOSTIC SEQUENCE



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TEACHING PROBLEM-SOLVING SKILLS
TO COUPLES

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The purpose of this workshop was to discuss a means of providing a growth experience to couples in a group setting. The group setting is actually a set of couples working in a group rather than a total group experience. Couples may participate for a variety of reasons, i.e., to increase mutual understanding, problems in decision making.

The maintenance of a relationship between two people in society is a difficult task. As a part of a growth approach to mental health this program offers a couple the chance to learn a behavioral model of problem-solving. Problem-solving is used as a means for bringing resolution to specific conflicts. Conflict is viewed as an inevitable by-product of problems in living experienced by every couple. Only by clear-eyed confrontation and meaningful encounter can conflict serve as a means of growth. Such confrontation and encounter requires a degree of skill so that conflict is utilized in a meaningful manner. Problem-solving is one of the skills for resolution of conflict.

Format

The program is offered to couples in a series of five modules. Four of the modules are independent of each other. Parenting explores the behaviors and values associated with childrearing; money examines the allocation of material resources and a couple's priorities; sex examines the manner, frequency and control of sexual behavior; leisure explores the value placed upon recreational activity as opposed to work, the time involved, the satisfaction gained and the desire to share. A fifth module ties together the others in terms of intimacy. Intimacy is examined in terms of the duration, quality, and intensity of shared experience as suggested by the previous modules.

Each module involves an assessment instrument which allows the two persons to examine each of these areas of life. The couple is then guided in a comparison of their beliefs, attitudes, desires and behavior.

Having done that the couple is then guided through a behavioral problem-solving model which involves the following areas:

- (1) Based on the instrument what is the problem in behavioral terms;
- (2) The existential value of this to the couple;
- (3) Resources and deficits the couple may have which may influence the problem;
- (4) Possible alternatives; and
- (5) Resolution(s) and procedures for implementing the resolution

Structure

As many as eight to ten couples can be worked within one group. The package takes approximately 1½ hours per module. The module format allows a variety of configurations in course offerings. The course may be given in one day, two half-days, or once a week. A couple may take as many or as few of the modules as they desire. Since the focus is not on a group experience, the entry and exit of couples does not interfere with the overall process.

Copies of the manual, Coupling: An Exploration in Living and Loving, may be ordered through James T. Turner, 126 Tibet Avenue, Apartment 10-A, Savannah, Georgia 31406.

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